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The U.S. and Mexico's Blurring Border

by Arthur Haupt

Starting in August 1982, there was a marked increase in the number of Mexican aliens apprehended at the border while trying to cross illegally into the United States. During the month of August alone, some 78,000 apprehensions were made – a 16 percent increase over August 1981. In the first 19 days of September, some 45,000 apprehensions were made – a 22 percent increase over the same period a year earlier. (In these cases, the arrested aliens usually waived their right to a hearing, and the U.S. Immigration and Naturalization Service deported them by busing them back to Mexico.)

This surge was linked to the Aug. 5 plunge in the Mexican peso's value. And among other things, it serves as an extreme example of population dynamics affecting – and being affected by – a country's economic and social problems. Further, it shows how the population dynamics of one country – in this case, Mexico – can end up affecting those of a neighboring country – in this case, the United States.

This border economy was severely disrupted when the peso fell – a bitter financial blow to Mexico caused in large part by the world oil glut of 1982. Mexico had discovered immense oil reserves in the south during the 1970s. Relying on seeming sure oil revenues, the government, under President Lopez Portillo, borrowed tens of billions of dollars abroad to finance industrial development. When the oil glut came, and oil prices fell, Mexico was hard-pressed to service its vast ($80 billion) debts, and could no longer use funds to support the peso on the world money market. The peso was left to float on its own on Aug. 5, and, already battered by inflation, dropped in value from about 40 pesos to the dollar to around 100 pesos.

One result of this devaluation was to make the U.S. dollar twice as attractive to illegal workers, and make the U.S. even more of a magnet to Mexican workers who are 40 percent underemployed or unemployed. Another result was to deal the U.S. side of the border economy a severe blow, as the

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EDITORIAL STAFF
Editor: Arthur Haupt
Consulting Editors: Mary Barberis, Patricia Cancellier, Sergio Diaz-Briquets, Elaine Murphy, Jean van der Tak, Robert P. Worrall
Demographic Editor: Carl Haub
Book Review Editor: Janice Beattie
Demographic Analysis Consultant: Leon F. Bouvier
Editorial Assistants: Judy Robinson, Susan Spano
Circulation Director: Jacki Majewski

Editorial and Circulation Offices
1337 Connecticut Avenue N.W.
Washington, D.C. 20036
Telephone (202) 785-4664
Cable: POPREF WASHINGTON DC

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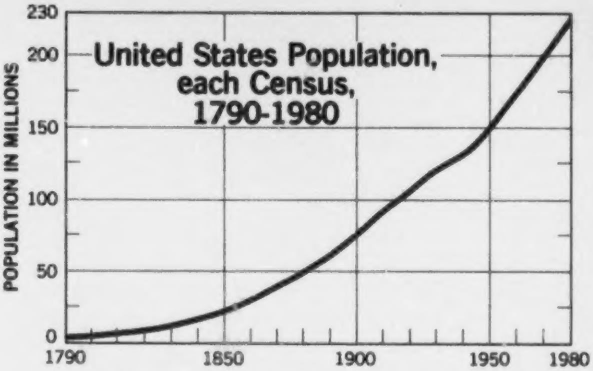
New Data Sheet Shows:

The U.S. Numbers, State by State


United States Population, each Census, 1790-1980

PRB members are receiving *The United States Population Data Sheet's* second edition with this INTERCOM mailing. The new edition updates state populations to 1981, with recently published estimates from the Census Bureau. The *Data Sheet* traces population growth through the 1970 and 1980 Censuses and provides a historical perspective by also giving the states' 1940 Census population. As did the last edition, the *Data Sheet* presents a statistical picture of the 50 states in one convenient source in a three-color wallchart ideal for students, teachers, businesspeople and anyone needing "facts at hand." *Data Sheet* highlights:

- Recent economic developments in the U.S. are showing up dramatically in our population's distribution. Five North Central states (Ohio, Indiana, Michigan, Iowa, and South Dakota) have lost population since the 1980 Census, undoubtedly due in part to the decline in traditional heavy industries such as automobile, steel, and tire. Meanwhile, population growth in the three big Sun Belt states (California, Texas, and Florida) has been astounding. These three states accounted for 1.5 million persons added since 1980, with Texas leading the way by adding 538,000 population in just the 15 months between the 1980 Census and July 1, 1981.
- The highest crime rates? Not in the Northeast as one might expect, but in the West with a rate of 7,388 serious crimes per 100,000 population, compared to the Northeast's 5,767.
- The nation has grown greatly since 1940. Since then, the U.S. has added 100 million to its population. California has more than tripled since prewar days, from about 7 million to 24 million. Florida went from 2 to 10 million during that time, while a number of other states' populations (e.g., South Dakota's) have remained almost constant. And the District of Columbia's population is smaller than it was in 1940.
- Other *Data Sheet* observations: In 1979, Mississippi had the highest proportion of its population living below the poverty level, 24.5 percent, and Wyoming the lowest, 8 percent. Texas has replaced Pennsylvania as the state with the third largest population, and now Illinois is pressing for Pennsylvania's number four spot. ☐

The United States Population Data Sheet, second edition, measuring 18½ x 24 inches, was prepared by PRB demographer Carl Haub. Single copies are $1.00; 2-49 copies, 75¢ each; 50 copies or more, 50¢ each. Send orders with remittance to PRB, Circulation Dept., P.O. Box 35012, Washington, D.C. 20013 (checks payable to: PRB). Please enclose $1.00 for handling on orders of $20 or less.

China's Population Policy: Glimpses and a 'Minisurvey'

By Henry P. David

Two weeks in China do not make a China specialist, but an observer quickly senses the impact of population pressures on quality of life and the need for one of the most dramatic social action programs ever attempted – the drive to limit 95 percent of urban families and 90 percent of rural families to one child.[1] Roaming the streets of Beijing, Xian, Nanjing, and Shanghai, as my wife and I did in August 1982, meant being engulfed by people – crowding stores and sidewalks or streaming by on bicyles and in jammed buses.

China is the first country in history to restrict the right to procreate, through state- and party-guided incentives and disincentives, peer pressure, and attempts to persuade newly married couples that their rational fertility decisions will mean a better future for their own families, their communities, and their country. The birth planning campaign of the 1970s, stressing later marriage, long intervals between births, and no more than two children per family in cities and three in rural areas, helped reduce the national birth rate from 34 per 1,000 population in 1970 to 17 in 1980; Shanghai's 1981 birth rate was reported to be just 7 per 1,000. The one-child campaign was launched in 1979 when leaders realized that, with large numbers of young people due to reach marriage age in the next two decades, even a two-child average would mean continued population growth for at least half a century, defeating national plans for rapid economic growth and modernization. The aim is to stop growth at 1.2 billion by the year 2000 and reduce the total population thereafter.

Anecdotal Minisurvey

Curious about people's reactions, I interviewed 17 men and seven women of China's billion citizens in the four cities visited. These 24 hardly constitute any kind of sample, but, though surprised at first, none were reluctant to answer my questions after I explained that I was a "scientific worker" in family planning and wanted "to learn truth from facts."

Most were guides or salespersons who spoke English; others were teachers, bus drivers, or train attendants who answered through interpreters. One of the men was 19, 11 were 25 to 34 years old, and five were 38 to 47. Six of the women were aged 28 to 30 and one was 45. Three men and one woman were single. Among the 20 married couples involved, the six oldest each had two children; the oldest mother was 45. All the wives among the 14 younger couples were under 31. Four had no children (one was currently pregnant for the first time), 10 had only one child, and none of the 14 wanted more than one child. Four of the younger wives had had abortions.

None of the 20 husbands was younger than his wife. The first pregnancy had typically occurred within 18 months of marriage. Sex education in schools appears to be practically nonexistent. As one man explained, "We learn instinctively." Every respondent claimed to have had no premarital sexual experience. Single people seem willing to postpone sexual debut; they are kept busy with work, study, and exercise and further inhibited by lack of privacy and perceived legal sanctions. A guide put it, "No one is permitted intercourses before being legally married." Some, of course, occurs. When pregnancy results, a woman is intensely "educated" to have an abortion. Reported abortions among young unmarried women are increasing but their proportion is very small, especially compared to the U.S. Family planning services are directed exclusively to married couples.

Most premarital health examinations include explanations of contraception. All methods are widely available at no cost. In the minisurvey sample, the pill was used by 11 of the 20 married women, three had been sterilized after the birth of the first or second child, and two relied on the IUD. One woman, a physician, preferred the "safe period"; her husband reported that she decided when they would have intercourse. Two wives said their husbands used condoms and a third practiced withdrawal. None of the men had had a vasectomy. Discussions with Chinese specialists suggest that the IUD is preferred by women who have had a child. Tubal ligation is gaining acceptance while vasectomy and the condom are least popular. Gossypol, the male-contraceptive injection that has had some publicity, was not mentioned by anyone.

The minisurvey was supplemented by discussions with knowledgeable persons in a Nanjing watch parts factory and in two Shanghai County rural communes. The Nanjing factory employed 800, mostly young, women, of whom 600 were married. In 1981 there were 70 marriages and 65 births, of which 64 were first births. Some 96 percent of newly married couples applied for the one-child certificate which guaranteed free hospital delivery, free medical care and education for the child, and gave the family priority for better housing, plus a subsidy equal to one extra month's salary per year. (The amount and mix of one-child incentives vary from place to place, usually depending on resources in the welfare funds of local work units.) Each woman of childbearing age was checked monthly for her period, "So we will know what she needs." Women with unscheduled second pregnancies were "persuaded" to have abortions. In 1981, there were 70 abortions and five female sterilizations but no vasectomies. An abortion entitles a woman to 14 days of paid vacation and a sterilization to 30 days; a vasectomy is worth only three days for a man.

Continued on next page

Mexico to Host Population Conference. Mexico will be the site of the 1984 International Conference on Population, the UN Fund for Population Activities has officially announced. By spring 1983, UNFPA Executive Director Rafael M. Salas will announce the dates and exact site. The Conference, which is the followup to the epochal 1974 World Population Conference in Bucharest, Romania, is expected by observers to take place in Mexico City.

Henry David, a psychologist, is director of the Transnational Family Research Institute, Bethesda, Maryland, and author of PRB's February 1982 Population Bulletin, *"Eastern Europe: Pronatalist Policies and Private Behavior." He traveled to China in conjunction with the Joint China-U.S. Conference on Psychology and Study Tour, organized by the Southeastern Psychological Association. Dr. David is grateful to colleagues at the Institute of Psychology of the Chinese Academy of Sciences and at UNICEF and UNFPA, who arranged seminars and discussions, and to Nicholas Cummings, Tema David, Lyn Knisely, Diane and Frank Leroi, and Earlene Taplin for additional contributions.*

Continued from preceding page

If the first child dies, the couple may try again without penalty. If the first child is handicapped, a second pregnancy is permitted, but without benefits. Couples who have received the one-child certificate but go on to have a second child must pay all medical costs for that child, pay back the benefits already received, and pay a penalty of about 10 percent of their combined salary for 14 years. (These penalties also vary from place to place.) Couples who have trouble conceiving are referred for infertility treatment, apparently with success.

One of the rural communes outside Shanghai had a population of nearly 20,000, including 4,700 families. Four-fifths of the married women were under age 45. In 1981 there were 366 births, of which 360 (98 percent) were first births. There were also 60 abortions but no sterilizations. Menstrual periods are checked each month. IUDs, usually inserted three to five days after delivery, are the most popular contraceptive. In another commune of 24,000 persons, including 6,700 families, there were 600 births and 60 abortions in 1981. Nearly 60 percent of the women were said to have decided on sterilization after the first child. Here, too, menstrual periods were checked monthly, and amniocentesis was performed "routinely" in every pregnancy. In the nursery visited, there were 18 boys and only nine girls, with no reasons offered for this sex ratio.

The nearly universal use of contraceptives (after the first birth) has dramatically lowered the birth rate of Shanghai County where these communes are located. Eighty percent of the 8,300 births in 1980 were first births and only three were third births. Among the 28,000 couples with one child (in a total population of half a million), over 83 percent had received the one-child certificate by the end of 1980.[2]

Psychologists' Concerns

Chinese psychologists, while supporting the one-child policy, are beginning to ask questions about the long-term effects.[3] What are the psychosocial implications of growing up without siblings,aunts and uncles, or cousins? What should be done to assure optimal intellectual and social as well as physical development of the only child? What happens if a second child is added to the family?

Long-term studies of the "only child," already popular in the U.S.,[4] have been initiated, with partial funding from UNICEF and in consultation with psychologists from abroad. Discussions with Chinese colleagues suggest that cooperative endeavors will have to be sensitive to Chinese scholarly practice and their pragmatic and cultural concerns. □

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1. See, e.g., P.C. Chen and A. Kols, "Population and Birth Planning in the People's Republic of China," *Population Reports*, Series J, No. 25, 1982; and H.P. David, "Incentives, Reproductive Behavior, and Integrated Community Development in Asia," *Studies in Family Planning*, Vol. 13, No. 5, May 1982, pp. 159-173.
2. W.S. Zheng and X.Y. Gu, "Family Planning," in A.R. Hinman et al. (eds.), "Health Services in Shanghai County," *American Journal of Public health*, Vol. 72, No. 9 (Supplement), September 1982, pp. 24-25.
3. See, e.g., C.C. Ching, "The One-Child Family in China: The Need for Psychological Research," *Studies in Family Planning*, Vol. 13, No. 6/7, June/July 1982, pp. 208-212.
4. T. Falbo, "The One-Child Family in the United States: Research Issues and Results," *Studies in Family Planning*, Vol. 13, No. 6/7, June/July 1982, pp. 212-215.

World Bank Reports:

Global Economy at 'Low Ebb'

The early 1980s have been a time of global recession for both more developed and less developed countries. During the 1970s the world adjusted surprisingly well to a series of economic shocks, beginning with the 1973 Arab oil embargo and price hike, events which constitute a watershed in post-World War II economic history. But now the adjustment options seem at an end, and in the words of the just-released *World Development Report 1982* of the World Bank, "The world economy is at a low ebb."

The principal problems, the Bank reports: "Continued recessions and heavy unemployment in the industrialized countries are accompanied by real interest rates at unprecedently high levels; most commodity prices are at their lowest levels in three decades; the volume of international trade has ceased to grow."

The slackening in international trade has hit the less developed countries with particular force, as they are faced with large debt repayments at high interest rates, and are hardpressed to earn foreign exchange through trade.

While in the 1970s the less developed countries showed themselves adept at adapting to difficult economic times, the 1980s may prove more difficult. Such giants as India and China, which seemed on the verge of self-sufficiency, may now require continued aid, and the poorest less developed countries, particularly those in sub-Saharan Africa, are "a matter of grave concern." The real growth in Gross National Product of the less developed countries declined to 2.2 percent in 1981, and the Bank now foresees a 2.2 percent per capita increase in GNP annually during the 1980s, lower than the 2.2-3.2 percent projection calculated for last year's Report.

The Bank does find solace in the figures for world agriculture, in all but the very poorest countries. Production has increased significantly, just under 3 percent per year during the 1960s and 1970s in the developing world. When population growth during that period is figured in, however, the output per capita is only 0.4 percent per year; and in improverished sub-Saharan Africa it has been *declining* a disturbing 1.4 percent per year.

The problem is not inability to produce but poverty on the part of too many food consumers; as Montague Yudelman, the bank's director of agriculture and rural development, put it in a *Washington Post* interview: "From the supply side, the world apart from Africa is doing rather well in agriculture. That doesn't mean we have eliminated hunger. But now that we are confident about the supply side of the food equation, we can pay more attention to demand – that is, how to get it into the hands of the people who really need it."

This year's report concentrates on agriculture, and there is no population wrap-up such as appeared in the 1981 Report. But the Bank does include its annual population growth and projection figures, which show the world reaching a projected 2000 population of 6.098 billion (excluding countries with less than 1 million population), in the same range as recent years' projections. □

Federal Funding Cuts = Many Curtailed Statistics Services

by Katherine K. Wallman

Statistics, essential tools for policy formulation, public and private decision making, research, and the allocation of resources, are among the least known casualties of current efforts to reduce the federal budget, ease regulatory controls, divest responsibilities to states and localities, and curtail paperwork burden. A recent *Washington Post* editorial advised readers "to spend a little time worrying about the declining accuracy and quality of government statistics." Worrying is not enough.

The cuts are real. According to an April 1982 study by the Congressional Research Service at the Library of Congress, "current statistical programs of the Federal Government experienced a 5.1 percent reduction in funding from FY 1981 to FY 1983 (with no adjustment for inflation). About 70 percent of this decline occurred between FY 1981 and FY 1982." More recently, a study prepared for the Joint Economic Committee of Congress concluded that, after adjustment for inflation, the FY 1983 budget request for the agencies that produce most of the government's economic statistics "represents about a 20 percent reduction from what was actually spent in 1980."

Examples of such cuts include the following:

- *Population estimate program.* The Census Bureau has placed its population estimate program on a biennial rather than an annual basis, and has abandoned plans to develop improved estimates that were to have served in lieu of the mid-decade census required by present law. It has done so even though these population estimates have important multiple uses, including distribution of revenue sharing funds, and the 1980 Census had shown that population estimates for some areas during the 1970s were seriously in error.

- *The Consumer Price Index (CPI).* The Bureau of Labor Statistics was preparing to produce estimates on the accuracy of the monthly CPI. Due to budgetary restrictions this project cannot be completed, though 31 percent of all federal budget expenditures in FY 1981 were automatically indexed to the CPI, and even slight inaccuracies in this index can be critical in the distribution of billions of dollars.

- *Labor information system.* The state-support parts of the Labor Market Information system, which are efforts to develop information about the demand for employment by occupation, will be eliminated. (Those parts of the program which contribute directly to national statistical estimates will continue.)

- *Current Population Survey (CPS).* The size of the Census Bureau's CPS sample, now 62,000 households, will be reduced by 12,000 households. Updating the sample design to take account of population distribution as of the 1980 census will be delayed. Statistics for states, standard metropolitan statistical areas, central cities, and minority populations will be increasingly less reliable.

- *1980 Census data.* The release of much 1980 Census data has been significantly delayed compared to past censuses, due in large part to budget uncertainties. This delay has already affected retailers, whose decisions concerning store locations and product distribution have been slowed; state and local government officials, whose efforts to target resources effectively have been hampered; and contract researchers, whose sample selection procedures for small areas have become less efficient, resulting in higher costs or reduced reliability. In an attempt to minimize the impact of delays in releasing data, the Census Bureau has issued reports and tapes that present information for large areas. Although these reports are useful, they do not address the major benefit of a census – providing data for small areas and groups.

To summarize briefly, it is clear that the *immediate* effects of the reductions in resources for federal statistical programs are losses in geographic detail (and of comparability) of federal statistics, losses in timeliness both as a consequence of delays in production schedules and as a result of less frequent collection of certain data, and losses in analysis of and access to those data which were collected. While some of the program reductions or eliminations were perhaps overdue, it is equally clear that decisions concerning the cuts were made, for the most part, without consultation among agencies, and without substantial recognition of the needs of users of federal statistics.

It has been argued that businesses, research groups, and state and local governments could fill the most important gaps created by the reductions in federal statistical programs. Few states and localities have the technical capacity to undertake such work. Private businesses, which may have the capability to perform such surveys, frequently are unable to collect needed types of information because they lack authority, or because they do not have the confidence of the public, or because, as testified Ed Spar, president of Market Statistics, a firm specializing in the development of sales, marketing, and advertising programs using demographic, economic and distribution data: "We do not have the resource dollars necessary to collect the data nor the depth of expertise to design, collect, and disseminate the data to the federal, state, local agencies, universities, data centers, private organizations, and on and on."

What has the response been to the cuts in our Federal statistical programs? In November 1981 the Joint Economic Committee of the Congress issued a study "Maintaining the Quality of Economic Data" which documented the decline in the national income data coverage, quality and timeliness. This led to media coverage by several major newspapers on what is happening to federal statistics gathering. In January

Continued on next page

Katherine K. Wallman is Director of the Council of Professional Associations on Federal Statistics, in Washington, D.C. This article is adapted from her address, "Federal Statistics: Bad News, Good News," delivered at the meeting of the Urban and Regional Information Systems Association in Minneapolis, Minn., Aug. 23, 1982.

Continued from preceding page

1982 the House Subcommittee on Census and Population asked the Council of Professional Associations on Federal Statistics to organize a hearing on the impact of these budget reductions on the utility and quality of federal statistics. In June, a second hearing was held by the House Subcommittee on Legislation and National Security, and in July the Joint Economic Committee recommended urgently needed FY 1983 restorations in statistical programs.

Perhaps the greatest response to the reductions has been the recognition by statistics users of the importance of making their views heard and their willingness to do so. It has been at their urging that funding has been added in House Appropriations bills for improved local, state, and regional estimates of the population and its characteristics; work on the National Economic Accounts; redesign of the household survey samples; and the Survey of Income and Program Participation.

The efforts of data users have also changed the Administration's course of action in some cases. The Census Bureau's decision to commit the 1980 tract reports to microfiche was reversed, and these reports will now be available in print. Testimony by users revived the Survey of Income and Program Participation (SIPP), which is intended to improve the quality and timeliness of information on income, but which was slated for extinction; OMB Director David Stockman has expressed support for SIPP and has indicated his intent to reprogram $3 million for its development in FY 1983. Users have also persuaded the Administration not to further delay the redesign of the household survey sample; funding for this activity is now to be lodged in the Dept. of Commerce so that it will not be subject to the budget priorities of multiple agencies.

What have we learned? Among other things, we have learned that getting information concerning the effects of budget reductions promptly to federal statistics users is critical so that they can make their voices heard; that there are many who can and must play a part in this process; and that no matter how bleak the drama may seem, progress can be made.

Finally, in this continuing saga of reduced budgets and the potential for reduced data, what can be done in the future? From this outsider's perspective, it seems critical that federal statistics users be:

- able, individually and collectively through their organizations, to document the uses which they make of statistics, and, to the extent possible, to determine their priorities for restorations and improvements to federal statistical programs and products.
- ready, on a moment's notice, to express their views, in terms as specific as possible, about the effects that reduced resources will have on the quality and utility of federal statistics essential to their work; and
- willing to assist organizations such as the Council of Professional Associations on Federal Statistics, by letting us know their concerns and priorities and, if possible, by supporting our operations, so that we may continue to provide information to users and to decisionmakers in the executive and legislative branches; and finally, willing to go the extra mile, by initiating contacts with the Administration and with Members of Congress, both during this period of crisis and over the longer term, so that those in government in turn will be willing to restore, maintain, and improve vital statistical programs. ☐

The Developed

Fourth of a series
prepared by Carl Haub

The majority of the world's developed countries (which hold one-quarter of the world's population) either have very low fertility—less than 2 children per woman on average or soon will have. When birth rates of this level remain static, a country's population decreases in size sooner or later (barring immigration). This fact may be viewed with alarm both in and out of government since a decrease in population size may be seen as a "bad" thing, leading to a loss of stature and/or power or otherwise fanning xenophobic concerns. Such alarm is not inevitable, but it does seem to crop up regularly. When the fact of impending population decrease becomes apparent, a government's actions can often be dictated by its customary relationship to its people. In more authoritarian countries, governments may feel freer to take action to influence fertility with plainly stated objectives; in other countries measures such as child allowances, maternity leave may be implemented as part of a more subtle policy. In some countries it may be politically impossible for the government to even try to influence women's childbearing; most would agree that the United States falls in this category.

The classification of countries' policies into a few short categories, such as in the table at right, is always a murky process. It seems fairly safe to say that the United States and Canada have no fertility policy, but how does one classify Czechoslovakia? The Czech government in the early 1970s was concerned about the falling birth rate and took steps to increase the fertility level, but recently appears to have shifted to a policy of no intervention. In Finland, the government also regards current population growth as satisfactory. However, specific targets for population size were set in 1975, stipulating that the population size of each Finnish county should not decrease. Since Finnish fertility is only 1.6 children per woman at present, the country's population is almost certain to start decreasing before long; thus, there appears to be a slight contradiction in Finland's population policy.

In the USSR, the table shows that the government views population growth as "too low," but, in fact, the USSR is only truly concerned about the low birth rate of ethnic Russians, not Moslem Asians in the country.

In most developed countries, access to family planning is not restricted, although in Albania, Greece, Ireland, Romania, and the USSR it is not always simple to obtain. In the developed countries, the reason services are provided is not to lower the birth rate, but to improve maternal and child health and overall family welfare.

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"Fertility Research and Population Policy in Developing Countries" is the subject of a conference to be held Nov. 22-23, 1982 at the National Academy of Sciences auditorium in Washington, D.C., sponsored by the Panel on Fertility Determinants of the National Research Council. Attendance at the conference is open to interested population policy and program personnel as well as to population researchers. There are no registration fees, but notification of your intent to attend would be appreciated. *Contact:* Carol Bradford Ward, National Research Council, 2101 Constitution Ave. N.W., JH 818, Washington, D.C. 20418.

Countries: A Population Policy Summary

Country	Government perception of population growth rate	Family planning availability/ government support availability	Reason for permitting family planning
EUROPE			
Northern Europe			
Denmark	Satisfactory	Avail/Govt support	Maternal/child health
Finland	Satisfactory	Avail/Govt support	Maternal/child health
Iceland	Satisfactory	Avail/Govt support	Maternal/child health
Ireland	Satisfactory	Avail/No govt support	—
Norway	Satisfactory	Avail/Govt support	Maternal/child health
Sweden	Satisfactory	Avail/Govt support	Maternal/child health
U.K.	Satisfactory	Avail/Govt support	Maternal/child health
Western Europe			
Austria	Satisfactory	Avail/Govt support	Maternal/child health
Belgium	Satisfactory	Avail/Indirect govt support	Maternal/child health
France	Too low	Avail/Govt support	Maternal/child health
Germany, W.	Too low	Avail/Indirect govt support	Maternal/child health
Luxembourg	Too low	Avail/Indirect govt support	Maternal/child health
Netherlands	Satisfactory	Avail/Indirect govt support	Maternal/child health
Switzerland	Satisfactory	Avail/Indirect govt support	Maternal/child health
Eastern Europe			
Bulgaria	Too low	Avail/Govt support	Maternal/child health
Czechoslovakia	Satisfactory*	Avail/Govt support	Maternal/child health
Germany, E.	Too low	Avail/Govt support	Maternal/child health
Hungary	Too low	Avail/Govt support	Maternal/child health
Poland	Satisfactory	Avail/Govt support	Maternal/child health
Romania	Satisfactory	Limited	—
Southern Europe			
Albania	Satisfactory	Avail/No govt support	Maternal/child health
Greece	Too low	Limited/Some govt support	Maternal/child health
Italy	Satisfactory	Avail/Indirect govt support	Maternal/child health
Malta	Satisfactory	Avail/Govt support	Maternal/child health
Portugal	Satisfactory	Avail/Govt support	Maternal/child health
Spain	Satisfactory	Avail/No govt support	Maternal/child health
Yugoslavia	Satisfactory	Avail/Govt support	Maternal/child health
NORTH AMERICA			
Canada	Satisfactory	Avail/Govt support	Maternal/child health
U.S.	Satisfactory	Avail/Govt support	Maternal/child health
ASIA & OCEANIA			
Australia	Satisfactory	Avail/Govt support	Maternal/child health
Japan	Satisfactory	Avail/Govt support	Maternal/child health
New Zealand	Satisfactory	Avail/Govt support	Maternal/child health
USSR	Too low	Avail/Govt support	Maternal/child health

*No official policy per se, but many measures have been implemented that have some pronatalist effect.

The Pill's Protective Effects Against Cancer Cited

Women who have used oral contraceptives are approximately half as likely to develop ovarian and endometrial cancer as women who have never used them, according to interim results of the ongoing Cancer and Steroid Hormone Study of the National Cancer Institute and other U.S. research centers. Furthermore, the protective effects of oral contraceptives appear to last some 10 years after use is discontinued.

Despite previous concerns, the study has found no evidence of increased risk of breast cancer among women who have used the pill, even for long periods.

This initial analysis of the continuing study was reported in the "Morbidity and Mortality Weekly Report" (July 30, 1982), which concluded that "because of the widespread use of oral contraceptives and the common occurrence of endometrial and ovarian cancer, the protective effects of oral contraceptives against these tumors could have a large public health impact. The reduced risk of cancer among women who have used oral contraceptives would result in the prevention of over 1,700 cases of ovarian cancer and over 2,000 cases of endometrial cancer in the United States each year." ☐

demographer's page

Cary Davis is a PRB Demographer. This article is adapted from a 67-page report prepared by PRB's Demographic Information Services Center, *The Future Racial Composition of the United States* by Leon Bouvier and Cary Davis, which is available from PRB for $10.

The Future Racial Composition Of the United States

by Cary Davis

As high fertility and much immigration catapulted U.S. population from 4 million in 1790 to 232 million today, most Americans, until recently, welcomed overall population growth as a sign of national health. Occasional doubts about population growth often stemmed from spoken or unspoken concerns about changes in population composition. In fact, this country's racial and ethnic mix has always fluctuated with the differences in fertility and mortality among resident groups and shifts in the numbers and origins of immigrants.

Recently there has been another historic shift in the origins of immigrants along with an increase in their numbers nearly to the highs reached from 1880 to 1914. Now a large majority of immigrants are Hispanics, Caribbeans, and Asians – a far cry from the overwhelmingly European movements of the not-too-distant past. As was true a century ago, the U.S. is on the verge of being transformed ethnically and racially. This time immigration will have an even greater effect on the population's makeup. That is because the average fertility of the resident population has been "below replacement" for a decade and, for the first time, an end to population growth by natural increase (births minus deaths) is in sight.

This is the demographic context for some questions now being asked in regard to proposed changes in U.S. immigration policy. Will the descendants of today's immigrants from Hispanic and Asian societies be assimilated to the same extent as Germans, Italians, and Poles were in the past? Will the U.S. become more multi-cultural? What would be the costs and benefits of such an outcome?

To help policymakers and planners answer such questions, we have made 100-year projections to show the impact of varying levels of immigration on the future size and racial composition of the U.S. population, taking differential fertility and mortality into account as well. Four immigration levels were used: zero, 500,000, 1 million, and 1.5 million per year. (These are actually levels of *net* migration – immigration minus emigration – and assume that emigration remains at the current estimated level of 100,000 per year.) The zero migration level is unrealistic but illustrates the population composition change likely to occur even without immigration. The 500,000 level is close to the limits implied in the Simpson-Mazzoli immigration bill currently before Congress – 425,000 to 450,000 legal immigrants a year, plus 50,000 (or more) refugees, and no illegal immigration. The 1 million level is close to some estimates of current legal plus illegal annual immigration. The proportion of Hispanics in the 1 million and 1.5 million levels was set higher than in the 500,000 level to reflect their greater concentration among illegal immigrants.

Methodology

The "cohort-component" method was used to perform projections of eight sub-populations. Four categories of "race" were adopted: White non-Hispanic, Black, Hispanic, and Asian & Other. ("Hispanic," like the other categories, follows the definition used for the 1980 Census but is independent

Table 1
Assumptions Used in Projections

Racial group	Fertility[a] (births per woman) 1980	2030 and after	Life expectancy[b] (Years) Male 1980	Male 2080	Female 1980	Female 2080
1980 Residents and Their Descendants						
White non-Hispanic	1.76	1.76	69.8	76.1	77.7	85.0
Black	2.34	1.76	65.0	76.1	73.6	85.0
Hispanic	2.60	1.76	67.4	76.1	75.7	85.0
Asian & Other	1.76	1.76	69.8	76.1	77.7	85.0
Post-1980 Immigrants and Their Descendants						
White non-Hispanic	1.76	1.76	(same life expectancy projections as 1980 residents and their descendents, above)			
Black	2.57	1.76				
Hispanic	3.00	1.76				
Asian & Other	1.93	1.76				

[a] The fertility of all groups converges at the 1980 White non-Hispanic level in 2030 and remains constant through 2080.

[b] Life expectancy of all groups converges in 2080 at 76.1 years for males and 85.0 years for females.

of race. A Hispanic can be white or black.) Details on our methodology appear in the full report of this project.[1] Each of these categories was subdivided into two groups: "1980 residents and their descendants" and "post-1980 immigrants and their descendants." (Hereafter references to residents and immigrants imply "and their descendants.") With these eight distinctions it is possible to compare each racial group's contribution to changes in the total population and to identify the post-1980 immigrant portion of a racial group. Table 1 shows the one fertility and one mortality assumption used for each group. By holding these constant for all levels of immigration, the entire difference between projections can be attributed to immigration.

The reader is reminded that projections are *not* predictions of what a writer thinks will actually occur in the future. Rather they are intended to show the mathematical outcomes associated with certain assumptions. By considering a range of population projections where *one* assumption is allowed to vary, it is possible to see how *that* variable influences population change.

Future Racial Composition Without Immigration

Looking first at likely changes in the makeup of the resident population helps highlight future changes due to post-1980 immigration. This is illustrated in the top, "no immigration," panel of Table 2. Assuming that the fertility rate of all groups will have dropped below the replacement level of 2.1 births per woman before 2030 (see Table 1), all four racial groups will grow and then decline in number during the 100-year span. The numbers of White non-Hispanics and Asians & Others, with fertility already below replacement in 1980, will peak earliest – in 2015 and 2020, respectively. With their fertility at first still above replacement and younger age structures, Blacks will peak in 2040 and Hispanics in 2045. Because of these differential growth rates, the proportions of the four groups will change. White non-Hispanics will decline from 80 percent in 1980 to 70 percent of the "1980 residents and their descendants" population in 2080. Blacks and Hispanics, actually declining in number from the mid-21st century, will continue to increase their share of the total – from close to 12 percent to 17 percent for Blacks and from 6.5 to 11 percent for Hispanics. This demonstrates that the racial composition of the U.S. will change over the next century irrespective of immigration.

With Immigration

With post-1980 immigrants and their descendants added in, the compositional changes become more dramatic. For example, if immigration continues at 1 million a year – close to the "best guesses" of current legal plus illegal immigration – the share of White non-Hispanics in the total population drops to 70 percent in 2000, 59 percent in 2040, and just under half (49.8 percent) in 2080 (see third panel of the table). In this scenario, the number of White non-Hispanics peaks in 2020; by 2080 they are down to 169 million compared to 181 million in 1980. Blacks, meanwhile, would almost double their 26 million of 1980 but their share in the total population increases only from 11.7 percent in 1980 to about 14.7 percent after 2040.

Table 2
Total U.S. Population and Percent by Race, 1980-2080, by Annual Net Immigration
(Racial group figures in percentages,[a] totals in millions)

Racial group	Census count 1980	Projection 2000	Projection 2040	Projection 2080
No immigration				
White non-Hispanic	79.7	76.9	72.2	69.9
Black	11.7	13.2	15.8	17.0
Hispanic	6.5	7.8	10.0	11.0
Asian & Other	2.0	2.1	2.1	2.0
Total (millions)	*226.5*	*255.9*	*256.4*	*214.9*
Annual net immigration = 500,000				
White non-Hispanic		74.3	65.3	58.6
Black		13.1	15.1	15.6
Hispanic		8.9	13.0	14.1
Asian & Other		3.6	6.5	9.7
Total (millions)		*267.4*	*294.7*	*277.0*
Annual net immigration = 1 million				
White non-Hispanic		71.7	59.0	49.8
Black		13.0	14.6	14.7
Hispanic		10.8	18.0	23.4
Asian & Other		4.3	8.3	12.0
Total (millions)		*279.1*	*333.8*	*340.1*
Annual net immigration = 1.5 million				
White non-Hispanic		69.2	53.8	43.5
Black		12.9	14.8	14.1
Hispanic		12.8	22.3	29.1
Asian & Other		4.9	9.6	13.5
Total (millions)		*290.9*	*373.0*	*403.4*

[a] Percentages do not always sum to 100.0 due to rounding.

Source: Leon F. Bouvier and Cary B. Davis, *The Future Racial Composition of the United States* (Washington, D.C.: Demographic Information Services Center, Population Reference Bureau, August 1982).

At the 1 million immigration level, Hispanics and Asians would register large gains. Hispanics would double from 15 million to 30 million by the year 2000 and increase to 80 million in 2080. At that time, 23 percent of the total population would be Hispanic, up from 6.5 percent in 1980. Less than 30 years from now, in 2010, Hispanics would overtake Blacks to become the largest minority in the country. Asians "& Others" would see their numbers grow from 4.5 million to 40 million in 100 years and from 2 to 12 percent of the population.

With annual immigration at 1.5 million, the changes in racial composition would, of course, be even greater. As the projections in the table show, by 2080 Hispanics and Asians together would be as numerous as White non-Hispanics.

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demographer's page

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To assume that immigration will continue at 1 million or more for the next 100 years is probably unrealistic. Our projections based on immigration limited to 500,000 a year may well turn out to be closer to the mark. At this level, White non-Hispanics would still be in the majority in 2080 at just under 60 percent. Hispanics would overtake Blacks as the largest minority only in 2070. In 2080 they would make up just over 16 percent of the total population, Blacks would be 15.6 percent, and Asians, just under 10 percent.

Discussion

How will post-1980 immigrants and their descendants adjust to U.S. society? Data on their proportion within each racial group serve as a warning of possible difficulties. Even with 1 million immigrants per year, only 11.3 percent of the White non-Hispanic population in 2080 would be descendants of post-1980 immigrants. Similarly, a large proportion of the future Black population could trace its ancestry to residents as of 1980. This is not true for the other two groups.

With low levels of future immigration (500,000 per year), the proportion of post-1980 immigrants and descendants among Hispanics would grow to 34 percent in 2040 and 47 percent in 2080. If immigration remains at 1 million, the proportions would be 58 percent and 70 percent, respectively. The recent increase in Asian immigration is even more dramatically reflected in future population distribution. With 500,000 annual immigrants, post-1980 immigrants and their descendants would be up to 44 percent of the Asian population in just 18 years. Within 100 years, that proportion would rise to 84 percent. Both the size and recency of the flow of people from Latin America and Asia suggest that the assimilation process may take some time to be accomplished.

That the ethnic and racial composition of the U.S. population is changing considerably should be obvious to any observer. This analysis merely confirms this trend and extends it into the future. In the past, serious disturbances followed major alterations in numbers and/or sources of immigrants. These disturbances were followed in turn by new periods of adaptation and assimilation of newcomers into the mainstream of U.S. society. As we enter still another phase in the ongoing process of developing an "American" identity, disturbances may occur again, to be followed—it is fervently hoped—by new adjustments and new concepts of "American." It is for this reason that changes in ethnic and racial composition remain important today and must be studied objectively to better understand and influence the direction the nation is taking. ☐

Reference

1. Leon F. Bouvier and Cary B. Davis, *The Future Racial Composition of the United States*, Demographic Information Services Center of the Population Reference Bureau, August 1982. This report is available for $10 from PRB, Circulation Dept., P.O. Box 35012, Washington, DC 20013.

The Blurring Border

Continued from page 1

new exchange rate discouraged traditional customers from Mexico, who normally make up an important part of the U.S. side's business. (For example, Mexican citizens constitute 23 percent of San Diego's downtown shopping business.) At the same time U.S. citizens were abandoning stores on their side of the border for a field day of bargain hunting in Mexico made possible by the new exchange rates—milk at 20 cents a gallon, sugar at 6 cents a pound.

The Border

These events highlight the U.S.-Mexican border's uniqueness as an international boundary—the only place in the world where a major more developed country shares an extensive open, easily traversed border (1900 miles long) with a major less developed country.*

And an open border it is. In 1981 there were 953,000 apprehensions of illegal aliens in the U.S. But during that same period, some 193 *million* people were crossing legally from Mexico into the U.S.—tourists, day workers, returning U.S. citizens, etc. The border becomes a little blurred; each border city is interdependent with its sister city on the other side, and to expedite the flow of people, ID checks and customs are kept fairly streamlined (always excepting U.S. Customs' sporadic drug sweeps). In Mexico, the real ID checks are done 75 miles below the border.

Meanwhile, extensive "in-bond" plant industries utilize the relatively cheap labor in Mexico to manufacture textiles, electronic goods, and other labor-intensive products for export to the U.S. (In "in-bond" plants, the parts originate in the U.S. and are assembled in Mexico, so that only the value added by Mexican assembly is subject to duty.)

By September, facing the prospect of Mexican citizens trying to unload their pesos out of the country for firmer currencies, the government nationalized the country's private banks and slapped freezes on dollar deposits. While the country's $80 billion in foreign debts remains worrisome, Mexican officials were traveling to ask for additional emergency loans from the International Monetary Fund and other sources, and it seemed likely that the world's international bankers would rather help Mexico than see the country default on any past loans. In short, despite many problems, it seemed likely that Mexico would ride out the storm.

From 20 Million to 71 Million

It has ridden out previous storms. In fact, after the great upheaval of the 1910 Revolution, Mexico developed what has been the most stable government in Latin America: a pragmatic combination of social consciousness and go-for-broke industrialization; capitalism and state control or

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*The U.S.-Mexican border is unique in this respect. What about the other MDCs? The Soviet Union is continguous with about half a dozen LDCs. But due to inhospitable terrain or political conditions, its southern and eastern borders are not now open or commercially used in anything like the way the U.S.-Mexican border is.

Europe's borders are such that there are no sharp economic disparities between any two adjoining European MDCs, and the economic "fall off" is gradual where Europe touches Asia. The remaining non-European MDCs—Australia, Canada, Japan, and New Zealand—are separated by land or water from the nearest LDC.

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ownership of major industries; democracy and one-party rule. But one price of this stability has been to postpone or ignore solutions to pressing social problems. And one of these problems has been the country's population transformation.

In 1940 Mexico was a nation of 20 million people. But since that time population growth rates jumped – to 2.7 percent annually in the 1940s, 3.1 percent in the 1950s, 3.4 percent in the 1960s, and 3.5 percent in the early 1970s. As of mid 1982, the estimated population is 71 million – more than 3½ times that of four decades ago.

After decades of pronatalist policy, Mexico's president Luis Echeverria announced a government family planning program in 1972. Free family planning services and an education campaign were started in 1973, and a constitutional amendment guaranteeing people's right to regulate their own fertility followed in 1974. The national family planning program has been one of the world's more successful, and by 1982, the growth rate had dropped to an estimated 2.5 percent.

Even with these successes, the U.S. Census Bureau now projects that Mexico will attain a population of 112 million by 2000 (medium projection). Fertility, while now down to 4.8 births per woman, is still way above replacement level, and because the population is still so young – 56 percent of Mexicans are under age 20, and have yet to enter the main childbearing years – continued high population growth is inevitable. The question remains open whether the country can support the present 71 million, much less 112 million only 18 years from now. And whether the present stability and bias toward the status quo can continue that long.

One solution has been implicitly acknowledged: using temporary and permanent emigration to the U.S. as a population safety valve. Allowing illegals to work in the U.S. and send money home has been referred to by some Mexicans as a form of "foreign aid" for Mexico, whose government takes a continuing interest in how strictly the U.S. is enforcing its immigration laws. And despite all the controversy surrounding the Simpson-Mazzoli bill with its employer-sanction provisions (see page 13), other, more drastic approaches are seldom discussed. Judging by comments occasionally made by policymakers, placing serious restrictions on the "open border" would offend Mexico and other Latin American countries, disrupt border commerce, run counter to the U.S.'s sense of being an "open society," and in any case might not be feasible.

MexAmerica?

In his wide-ranging popular book *The Nine Nations of North America* (1981), Joel Garreau makes a provocative case that the U.S.-Mexican border region and the U.S. Southwest have already become a single new "nation" (or socioeconomic entity, anyway). This nation, which he expansively calls "MexAmerica," stretches from Sacramento, Calif., to Houston, Tex., and from Monterey, Mex., to as far north as northern New Mexico. Of course, although it exhibits Mexican culture, MexAmerica is still comprised of two quite different countries. But border or no border, the region is undeniably becoming more and more interknit economically, as recent events following the peso's devaluation demonstrate.

Garreau points out that the U.S. Southwest is also growing spectacularly in its own right – through internal U.S. migration, and through the ascendency of high-technology, quintessentially Sun Belt industries, such as electronics, energy, and aerospace. "It's not hard to envision a near future," he writes, "in which the MexAmerican Southwest becomes the continent's dominant region."

Hard data about the illegal migrant population of the U.S. are still hard to come by. And no one can confidently predict future trends in illegal migration. But it would be ironic if this region became the best hope of both Mexico (as a population safety valve) and of the U.S. (as the new dominant region). As a result, the future, and flavor, of both countries could increasingly reflect the bilingual, Hispanic, yet very North American region along the blurred border that has heretofore separated the two countries but may now be serving to bring them closer together. ☐

The U.S. Grows – Geographically

The U.S. "picked up" 3,647 square miles following the 1980 Census, the result not of aggrandizement or new lands, but rather a fine tuning of measurements compiled by the U.S. Census Bureau.

Previous totals of U.S. land size were based on a 1940 assessment, which (when the future states of Alaska and Hawaii were added in) found a total of 3,615,123 square miles. This figure has now been corrected and adjusted, and the Bureau's best judgment is that the U.S. proper now comprises 3,618,770 square miles.

How big is that? It's equivalent to a square of land 1,902 miles on a side. About one-sixth of it is one state – Alaska.

Most of the "pick up" came from a remeasurement of Alaska, which found 4,592 additional square miles, mostly from a reassessment of the island-and-inlet-riddled southern panhandle. The other 49 states, meanwhile, were estimated to be 945 square miles less than previously thought. The adjustments for other states ranged from infinitesimal to minor, from Wisconsin dropping one square mile (from 56,154 to 56,153) to New York's drop of 468 square miles (from 49,576 to 49,108).

Again, it should be emphasized that all this is a statistical reassessment, not a land transaction; a returning traveler will find New York's land and boundaries (if not its people) right where he left them. The reassessment was made possible and necessary by improvements in plotting and calculating technology, and by the fact that the U.S. Geological Survey has completed a large-scale topographical mapping of the U.S., a job only 15 percent completed in 1940. The Bureau reassessed the size of most of the country's approximately 3,125 subdivisions (i.e., counties, independent cities, Louisiana parishes, and Alaskan census areas), and also reclassified areas such as inland and coastal waters. The whole difference added up to a net increase of 3,647 square miles – equal to the size of Delaware and Rhode Island combined, which makes it sound like a lot; or equal to about one-tenth of one percent of the U.S. land area, which doesn't sound very big at all.

The Geography Division of the Census Bureau is responsible for keeping track of area sizes within the U.S., a job which, among other things, makes possible the accurate calculation of population densities (for which you have to know two things: the population of an area, and the geographical size of that area). ☐

Assessing the Status of Women in 20 Countries

In recent years researchers have started to concentrate on the linkage between fertility and women's status. They have found that women's education, participation in the community and in the labor force, social recognition, and other factors affect their ability and willingness to plan childbearing.

Thus far, however, virtually no society provides women equal status with men. But progress has been made, and a new PRB Report, *Status of Women: A Comparative Analysis of Twenty Developing Countries*, by Leslie B. Curtin, endeavors to analyze the factors making up women's status and to assess it as it presently exists in 20 less developed countries,* based on World Fertility Survey (WFS) data.

The countries are widely distributed (12 from Asia and the Pacific and 8 from Latin America and the Caribbean) and reflect diverse social systems and structures. The sample was composed of ever-married (or ever-in-union) women between the ages of 15 and 49 years. The survey results, Curtin reports, indicate that:

Educational attainment for women has improved substantially in most countries over the past 25 years. For example, in Malaysia, the proportions of women with no education fell from about 70 percent among the oldest women to 12 percent among the youngest women surveyed. Nevertheless, extreme differences still exist in illiteracy rates between men and women.

Despite lower levels of development (as measured by per capita GNP and Physical Quality of Life Index), the percentage of women who are currently employed in many Asian/Pacific countries is higher than in Latin America and the Caribbean. In some South and East Asian countries very high female labor force participation rates are found, but women have a larger share of agricultural employment than nonagricultural employment.

There is a lack of consensus on what factors to use in accurately assessing women's status. The PRB Report uses various aspects of women's educational attainment and employment as the "best available" dimensions in which women's status can be measured, and in some cases (e.g. Malaysia, as mentioned above), progress in these dimensions has been observed – just as progress in lowering fertility has been observed in many less developed countries. In the final analysis, though, as Curtin points out, "status" is an intangible conferred by society on men and women according to what are sometimes rather complex standards. So, raising women's status may also turn out to be a complex task. □

Single copies of *Status of Women: A Comparative Analysis of Twenty Developing Countries*, by Leslie B. Curtin, are available free from PRB; for mail orders, there is a $1.00 handling charge. Bulk order handling charges are available on request. Order from PRB, Circulation Dept., P.O. Box 35012, Washington, D.C. 20013.

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*The countries included in the Report are *Asia and the Pacific:* Bangladesh, Fiji, Indonesia, Jordan, Republic of Korea, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, and Turkey; *Latin America and the Caribbean:* Colombia, Costa Rica, Dominican Republic, Guyana, Jamaica, Mexico, Panama, and Peru.

> When one looks at all of the human activities that threaten the environment, the possibility of nuclear war must of course go at the top of the list. But next in importance is the growth of human population. . . .
>
> Back when we had a relatively small population, human beings existed in harmony with nature. [But] in recent times the picture has changed radically. . . . [and] now, we are in the process of adding a *fifth* billion in just ten years.
>
> The developing countries, with their far higher rates of population growth, have been particularly affected. When you see the impact of human population growth – so many people desperately trying to survive by grubbing out a living that is destroying the forests and the topsoil, the habitat for wildlife and the habitat for *Homo sapiens* – you cannot fail to see that population size has a direct bearing on the Earth's ability to sustain life. And that the *quality* of human beings determines to a great extent the *quality* of individual human lives. . . .
>
> There are essentially two ways for human beings to go. We can continue to proliferate at today's rate and suffer the consequences that are inevitable when any species exceeds the carrying capacity of its habitat. Or we can recognize our ecological limits and support policies, national and global, that will lead as quickly as possible to a stable human population.
>
> It is the stated intention of the National Audubon Society to pursue this latter course. To do less would be to renounce our commitment to protecting biological diversity and to passing along to our descendants a healthy, habitable planet.
>
> – Russell Peterson
> *President, National Audubon Society,*
> *in the July 1982 issue of "Audubon"*

Asian Conference Meets

The Third Asian and Pacific Population Conference was held Sept. 20-29, 1982 in Colombo, Sri Lanka, with representatives from 32 countries attending.

Sponsored by the UN Economic and Social Commission for Asia and the Pacific (ESCAP) and the UN Fund for Population Activities, the once-a-decade meeting was called to assess the population situation in that part of the world and to discuss current programs and progress.

While there are many population programs in the Asia-Pacific region, its population of 2.5 billion is projected to grow to 3.5 billion by 2000. And unless more resources are allocated to improving conditions – reducing hunger and malnutrition, upgrading shelter and sanitation, and improving literacy rates, ESCAP Executive Secretary Kibria warned that the region's future stability could be threatened.

Kibria told the assembly that population itself is not the root problem, since people are the key long-term resource in furthering development. In the short run, however, "There is certainly the danger of population growth outstripping available resources in some countries of the region." Drops in fertility in some countries have been notable, but there is no room for complacency, he said, because these rates remain generally above what would be necessary to stabilize the populations. "We need to accelerate the process that has already begun, not only by encouraging smaller families, which works to improve the quality of population, but also by pursuing that goal through social and economic development."

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He also felt that an Asian and Pacific Population Plan of Action coming from the meeting, which after all included representatives of countries containing more than half the global population, would constitute a major contribution toward the upcoming World Population Conference in 1984. ☐

Immigration Bill Passes Senate

The bipartisan Simpson-Mazzoli immigration bill was passed by the Senate Aug. 17 on an 81-8 vote, and went to the House, There, the House bill has been reported out of the Judiciary Committee and its backers are hoping for action by the full House by the end of 1982.

The bill, sponsored by Sen. Alan K. Simpson (R-Wyo.) and Rep. Romano L. Mazzoli (D-Ky.) would set for the first time a system of fines and prison terms for employers who knowingly hire illegal aliens.

It also includes an amnesty program granting permanent resident status to illegals who have lived in the U.S. since before Jan. 1, 1978, and temporary resident status (which could be upgraded to permanent status) to illegals who have lived here since before Jan. 1, 1980. It calls for an annual admission limit of 425,000 immigrants. The bill does not address refugees. Admission of refugees is still governed by the provisions of the 1980 Refugee Assistance Act (see INTERCOM, March 1980).

The bill also calls for the President to establish a "secure system" within three years for employers to establish the citizenship of their prospective employees. This language would seem to indicate a national ID and/or data bank. In recent weeks there has been some uncertainty about whether the Administration is willing to inaurgurate such an ID; while Congress seems to favor the employer-sanction approach to curbing illegal immigration, the specifics of verification (the lynchpin of such an approach) remain cloudy. ☐

Helms Abortion Bill Dropped

The abortion issue, while always a storm center of controversy, may be finished in Congress for 1982. After anti-abortion backers were unable to break a liberal filibuster in the Senate during August and September, the Senate finally moved to table the amendment so that it could move on to finish its business for the year. The tabling vote was 47 to 46.

The issue was whether the debt ceiling bill could contain an amendment by Sen. Jesse Helms (R-NC) permanently prohibiting federal funds for abortion and abortion research, expediting Supreme Court review of its 1973 decision legalizing abortion, and offering two "findings of Congress" that human life begins at conception.

Originally, the Senate leadership had arranged that Helms and pro-choice advocates in the Senate would be able to debate Helms's proposals and the abortion issue on the Senate floor. But after Helms changed the language of his amendment in order to maximize support for it, pro-choice forces, led by Sen. Bob Packwood (R-Ore.), said that the arrangement was off, and a filibuster would be on. In three tries to invoke cloture (i.e., to limit debate), which requires a three-fifths vote of the Senate, anti-abortion forces were able only to get a 44 to 50 vote.

President Reagan had earlier given his endorsement to push for anti-abortion legislation. While not specifically endorsing any of the current measures, he called on Congress "to face the national tragedy of abortion." He had been criticized by some conservatives for putting social issues such as abortion on the back burner in deference to his economic program.

The anti-abortion forces had previously been divided as to what was the most productive way to proceed. Sen. Mark Hatfield (R-Ore.) introduced his Abortion Funding Restrictions Bill, which barred federal funds to any organization that performed or promoted abortion except to save the life of the mother (e.g., medical schools). Sen. Orrin Hatch (R-Utah) promoted the so-called Hatch amendment, a constitutional amendment which would essentially give the states the right to ban abortions by statute. The Helms amendment, however, was given the best chance of success and the consistently lopsided votes against ending the liberal filibuster were considered to be a litmus test of Senate sentiment on the issue this year, and a setback for anti-abortion forces which for the past 11 years have been searching for a way to roll back the effects of Roe v. Wade. ☐

World Abortion Trends Detailed

Abortion has probably fallen to third place among birth control methods, with about 40 million abortions worldwide every year. (Voluntary sterilization is used by approximately 100 million, and oral contraceptives by some 54 million.) However, abortion, which before the advent of modern contraceptives was once the principal method of limiting births, could escalate again in the developing countries as preference for smaller families and an increase in the number of women of childbearing age outraces the provision of effective family planning services.

These are some of the findings reported in "World Abortion Trends," just published by the Population Crisis Committee. The six-page summary is an update of PCC's populary summary of this subject published in 1979.

PCC also reports that:

As of 1980, about two-thirds of the world's people live in countries that permit medically induced abortion on request or under a wide range of social conditions – mainly in Asia, Europe, and North America. In much of the Middle East, Latin America, and Africa, however, abortion is severely restricted or illegal.

The highest abortion rates in the world may be those in Italy, Portugal, and Uruguay, where rough estimates over the last several years indicate the abortion ratio may be at least 1,000 abortions per 1,000 live births. Significantly, abortion in those three countries was illegal at the time. Rates in Europe are high generally, higher than the U.S.'s estimated 417 abortions per 1,000 births as of 1978. The overall incidence of legal abortion, PCC reports, has tended to rise compared to the estimated prior illegal rate, and then level off.

Patterns of abortion use vary markedly. In the U.S., for example, 74 percent of women who obtained abortions in 1978 were unmarried, and 57 percent were childless. In Mexico, by contrast, according to a 1979 study, 95 percent of women seeking abortions were married and had more than three children. ☐

"World Abortion Trends," a six-page fact sheet, is available free in limited quantities from the Population Crisis Committee, 1120 19th St. N.W., Washington, D.C. 20036.

wfs update

Carl Haub, a PRB Demographer, prepared this report on the World Fertility Survey. Additional reports on the survey, which will ultimately cover 62 countries, will appear in INTERCOM as results become available.

Syria

The results of the 1978 World Fertility Survey conducted in Syria have been published and are a significant contribution to what has been known about the country's population trends. Previous estimates for Syria have indicated a high rate of childbearing, and the Syrian WFS confirmed that expectation.

About half of Oklahoma-sized Syria consists of deserts and rocky mountains, with the balance of the country suitable for agriculture and grazing. In years of sufficient rain, Syria can be self-sufficient in most foods and the newly completed Euphrates Dam opens new possibilities for irrigation. Much of Syria's imports, financed by income from oil, consists of machinery to outfit its growing textile, cement, and mining industries. The population is about 90 percent Arab Moslem, while the remainder consists primarily of Kurds and Armenians.

Marriage and fertility in Syria follow patterns often observed in Moslem societies. Marriage is virtually universal, quite stable, and at an early age. There is some evidence of a rising age of first marriage, however, and this trend is clearly associated with higher educational levels. The median age at marriage was 18.5 for women with no schooling (and these women account for two-thirds of all Syrian women), while it was 24.2 for women who had completed primary school.

The survey estimated that the two-thirds of Syrian women with no formal education average possibly as many as 9 children each, but the overall average is 7.3 children. The survey report notes that this differential probably indicates that fertility has begun a measurable decline, along with a rise in women's status, as indicated by increasing school enrollment. UNESCO statistics indicate that the percentage of school-age females enrolled in secondary school rose from about 10 percent in the mid-1960s to about 30 percent in the late 1970s, which promises a brighter outlook for the status of women in Syria.

Although the government has no official policy to reduce the birth rate, contraceptives are available to some extent in maternal and child health clinics. About one in five of the currently married women was using some method of family planning, the majority of those using the pill. In addition, knowledge of family planning was rather widespread, with 72 percent of the respondents reporting some familiarity with a method.

Nonetheless, desired family size remains large in Syria. On the average, the respondents said that they wanted 6.2 children during their lives. This dropped to 4.1 for the small proportion of women who had at least a secondary school education. Half of the women who had at least 5 living children indicated no desire to cease childbearing.

Thus, while Syrian women exhibit some familiarity with family planning in general as well as a desire for smaller families when they receive more education, the notion of the large family would appear to be pervasive, at least for the time being. ☐

FDA Names Depo-Provera Board of Inquiry

In September 1981, the U.S. Food and Drug Administration appointed a Public Board of Inquiry to reassess the FDA's own decision (made in 1978) not to approve Depo-Provera for use as a once-a-month injectable contraceptive. (This action marked only the second time the FDA has appointed such an outside panel; see INTERCOM, January 1982, for a capsule history of the Depo controversy.)

The new Board still has not met. But on Sept. 23, 1982, a public *prehearing* conference was held to discuss the format of the Board's first hearing, which may take place in late 1982 or early 1983. It is likely to be months beyond that before the Board decides on a recommendation on the use of Depo-Provera. The recommendation will then be given to FDA Commissioner Arthur H. Hayes, Jr., who will issue a final decision.

Canadian Board Recommends Depo

Last March a Special Advisory Committee recommended the benefits of Depo to the Canadian Health Protection Branch, writing that based on experience so far, the drug has "a favorable risk/benefit ratio, and the drug does not present an undue health hazard.... In the opinion of our Committee, Depo-Provera may be useful in those women for whom other forms of contraception are considered medically undesirable or inappropriate, or where an oral contraceptive regimen is contraindicated or too demanding.... We believe the contraceptive user with her physician is in the best position to judge the suitability of a particular contraceptive method."

No Depo in Swedish Foreign Aid

Meanwhile, Sweden, which is one of the 80 countries where Depo-Provera is used, has decided not to supply the injectable contraceptive as part of its foreign assistance. One of the reasons for this restriction given by the Swedish International Development Authority (and reported in *People* magazine) was that it was essential to give clients proper information on the drug and then provide continuous followup, and in many of the countries being aided, the health services for this kind of support were lacking. ☐

world food news

Food and Earth Satellites

The role of remote sensing in the appraisal of renewable resources, soil degradation, desertification and monitoring of natural disasters has increased at the operational level of FAO over the last few years. FAO first used satellite imagery in its remote sensing program more than 10 years ago when it updated the FAO/UNESCO Soil Map of the World in northern Mexico and some countries in North Africa. An interdepartmental working group on remote sensing was set up in 1974 and a Remote Sensing Unit was established in 1976.

The leading role of FAO in remote sensing was recognized by the United Nations Committee on Peaceful Uses of Outer Space at its 21st Session in 1978 when it recommended that within the UN system there should be two international remote sensing systems. One of these, located in the Natural Resources and Energy Division of the UN's Dept. of Technical Cooperation for Development in New York, would be primarily concerned with nonrenewable resources. The second, to be located at FAO headquarters in Rome, Italy, would cover the field of renewable resources.

The FAO Remote Sensing Centre has been in operation for 2½ years. In order to meet the growing needs of developing countries, it carries out several broad functions. The Centre catalogues, stores and provides remote sensing data to member governments, FAO country offices and managers of field programs. Information on remote sensing has been developed, including more than 70 technical documents. Work has begun on coordinating a program to build a computerized world index on the availability of aircraft- and spacecraft-derived imagery of the earth's surface.

The Remote Sensing Centre also sponsors training courses and workshops at the national, regional and international levels. Some 400 senior technicians from more than 75 nations have participated. Annual regional training seminars have also been held in seven countries. FAO has been chosen as the executing agency for several UN Development Programme projects for the establishment or strengthening of national remote sensing centers. Major activities in this work during the last five years have taken place in Argentina, Bangladesh, China, India, and Vietnam.

Other accomplishments of the FAO field program area include analysis of factors contributing to desert locust incidence in North Africa, development of methods to improve tropical forest monitoring, improvements in soils and lands use mapping techniques and development of methodology for soil degration studies. Pilot studies are also underway to use Landsat imagery to monitor seasonal flooding and waterlogging of land in Africa and South America. ☐

"World Food News" is provided to INTERCOM by the Food and Agriculture Organization of the United Nations.

A Correction

In the "Current Readings" section of the July/August 1982 INTERCOM, teenagers were omitted as potential readers (due to an editing error) in the book review of *Sex: The Facts, the Acts, and Your Feelings* by Michael Carrera. The final sentence should read that Carrera's book "is an excellent resource on sexuality, suitable for parents, teenagers, and educators of all types."

Call for Proposals for Vasectomy Projects. The Association for Voluntary Sterilization (AVS) announces the establishment of a special program offering funds, equipment and technical assistance to public or private institutions in the developing countries for vasectomy projects. The purpose is to make quality sterilization services more widely available to men and to find new and innovative approaches in information and service delivery. Projects designed to initiate male sterilization services, either through integration with existing health and population programs or as independent facilities in areas where none existed before, are especially welcomed. *Contact:* Vasectomy Program, International Program Division, Association for Voluntary Sterilization, 122 East 42nd St., New York, NY 10168.

Vital Statistics Update

Latest Provisional Statistics for the U.S.: June 1982

	12 months ending with June				
	Number		Rate		
Item	1982	1981	1982	1981	1980
Live births	3,662,000	3,628,000	15.9	15.9	15.7
Deaths	1,960,000	2,006,000	8.5	8.8	8.7
Natural increase	1,702,000	1,622,000	7.4	7.1	7.0
Marriages	2,444,000	2,431,000	10.6	10.6	10.6
Divorces	1,200,000	1,199,000	5.2	5.3	5.2
Infant deaths	41,700	44,200	11.4	12.2	12.8
Population base (in millions)	...	...	230.5	228.3	225.9

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates from the 1980 Census.

Source. Monthly Vital Statistics Report (Vol. 31, No. 6) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Publishers may address review copies to Book Review Editor, INTERCOM, Population Refernce Bureau, 1337 Connecticut Avenue N.W., Washington, D.C. 20036

THE ENDANGERED SEX, by Barbara D. Miller. Ithaca, N.Y.: Cornell University Press, 1981. 201 pp. $17.50. ISBN 0-8014-1371-0.

Demographers have long noted that the proportion of males to females in India is abnormally high in the published statistics, leading some experts to hypothesize that female mortality is much greater than that for males. In **The Endangered Sex,** Barbara D. Miller employs census data and numerous anthropological studies to examine this problem. Using Indian census data, she shows that there has been an historical preponderance of males in rural northwestern India, particularly among the higher castes. This was apparently a region where female infanticide was practiced until the British initiated legal sanctions to stop it in the late 19th century. Although it is not clear how common female infanticide was, only sketchy evidence being available, Miller maintains that the social and economic reasons for the practice persist today. Daughters have less value than sons in this culture not only because they do not provide "old age assistance" and have little income-earning power, but also because they are a financial liability due to the necessity and expense of arranging a suitable marriage. Miller finds that these factors contribute to the low status of females and outright discrimination against them in the allocation of three important items: food, medical care, and love. This neglect is the explanation of the higher mortality among female children, particularly among the higher castes who have more to lose by having to provide for daughters. This situation will not improve until there are basic changes in the organization of production, inheritance laws, and marriage customs.

While her many hypotheses about the links between the social structure, fertility, and mortality cannot be resolved in one book, there is considerable value in Miller's attempt to search beyond the numbers for an understanding of what demographic measures may be telling us about a population.

—Mary M. Kent

CANCER MORTALITY AND MORBIDITY STATISTICS: Japan and the World, edited by Mitsuo Segi, Suketami Tominaga, Kunio Aoki, and Isaburo Fujimoto. (Gann Monograph on Cancer Research No. 26.) Tokyo: Japan Scientific Societies Press, 1981. 274 pp. $45.00. ISBN 4-7622-0277-X.

This is an exemplary presentation of mortality and morbidity statistics. Published under the aegis of the Japanese Cancer Association, it consists mainly of tables and is divided into two parts. The first part presents figures on Japanese cancer mortality and morbidity, by age, sex, incidence, site of cancer, and various geographical locations, and in considerable detail. The second part of the book consists of cancer mortality statistics for 56 more developed and less developed countries, using data from the countries themselves or as compiled by the UN and the World Health Organization. (The book does not carry morbidity data for these countries because, as the authors note, such figures have already been published in *Cancer Incidence in Five Continents* by the International Agency for Researches on Cancer, Lyon, France.) These figures are broken down by country and by site of cancer. Bar graphs ranking countries are included, which show, for example, that the age-adjusted death rates for leukemia are seven times as high in Greece as in Thailand. This book presents more (and more detailed) data than one would think were generally available, and should prove useful to epidemiologists and public health workers involved in analyzing the rates and trends of cancer in a population setting. *—Arthur Haupt*

AMERICAN IMMIGRATION TODAY: Pressures, Problems, Policies, by Judith Bentley. New York: Julian Messner, 1981. 190 pp. $9.79. ISBN 0-671-34056-5.

Few issues attract as much attention today as immigration. In the last decade, and for a variety of reasons, legal and illegal immigration has become one of the principal factors accounting for the population growth of the United States. Academic studies have proliferated as various future scenarios are portrayed and as students of immigration seek to understand its impact on American society, the reasons why it has increased to such an extent, etc. Similarly, hardly a day goes by in which the population press does not carry one or more immigration stories. Bentley provides a highly readable, non-academic description of the immigration theme. Oriented to a lay, educated public the book provides a good review of who the immigrants are, how they have fared in the U.S., and an adequate discussion of the policy and legislative concerns regarding what the U.S. can or should do about future immigration. While of limited use to the researcher, **American Immigration Today** can serve as a useful introduction to the person not well versed in this contemporary topic. *—Sergio Diaz-Briquets*

PRIVATE CRISIS, PUBLIC COST: POLICY PERSPECTIVES ON TEENAGE CHILDBEARING, by Kristin A. Moore and Martha R. Burt. Washington, D.C.: The Urban Institute Press, 1982. 166 pp. $11.00. ISBN 87766-314-9.

Although aimed at policymakers seeking ways to reduce the high public cost of teenage childbearing in the United States (health and welfare costs for the 442,000 first children born to teenagers in 1979, for example, will alone total $8.3 billion by the time the children reach age 20), this balanced, well-documented book is an excellent resource for all those concerned about the problems associated with early sexual activity, pregnancy, and parenting. The authors clearly summarize what is now known—and what still needs research—to answer such questions as "How can it be that so many young people experience pregnancy and parenthood in this presumably sophisticated technological society?" and "What interventions can families, community organizations, or government entities initiate that would help teenagers avoid early parenthood and welfare dependency?" While stressing that "the best solutions are preventive ones" (sex education "in a broad sense" and family planning services tailored to teenagers), they also list practical steps to reduce the high public and personal costs once teenagers become pregnant and parents. *—Jean van der Tak*

AGING: THE ETHNIC FACTOR, by Donald E. Gelfand. Boston: Little, Brown, 113 pp. $12.95 hardback; $7.95 paperback. ISBN 0-316-307149.

There are people who are aged, and people who are aged and ethnic. This book treats the U.S. aged population as broken down by ethnic groups, and the special needs (and resources required to meet those needs) of these groups. While it is more social science than demography, the book contains chapters of particular interest to population specialists. Sections are devoted to defining ethnicity (a word that Gelfand defines as designating "a variety of groups that have a distinctive sense of peoplehood"), and to describing how a group's ethnicity may define its members' attitudes toward their own aging, their sense of social place, and their receptivity to social services. *—Janice Beattie*

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Poverty, Mortality Still High

Despite Progress, U.S. Blacks Not Yet In National Mainstream

by Jean van der Tak

American blacks have come a long way in the past 20 years but still are far from closing the gap with whites, says Howard University sociology professor John Reid in PRB's *Population Bulletin* for December, "Black America in the 1980s."

Reid bases his conclusions on a review of demographic and socioeconomic changes in the U.S. black population particularly since the 1962 second edition of Gunnar Myrdal's classic study of American blacks, *An American Dilemma*. In that book (first published in 1944), Myrdal argued that the professed American Creed of "liberty, equality, justice, and fair opportunity for everybody" had in practice been extended least of all to blacks.

Reid observes that the civil rights movement launched in the 1950s, along with the Great Society of the 1960s, did give many blacks a boost up the socioeconomic ladder. But at the outset of the 1980s "the picture is far from being as rosy as it might be," he claims.

"Demographically blacks are approaching the norm in migration and in overall fertility, though black teenage and out-of-wedlock childbearing remain troublesome," he says. Blacks are nearing the "median range" in educational attainment and entering the white-collar occupations, if at lower levels than whites. "But when one considers the dismal record on mortality, steady employment, and income, it becomes clear that a major move by American blacks into mainstream middle-class America is not imminent," he concludes. Further, he sees what gains blacks have made now being threatened by the current administration's cutbacks of federally supported social programs and sharply changed attitude as to government's role in protecting civil rights, plus the current flood of immigrants into the U.S. "who compete

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EDITORIAL STAFF
Editor: Arthur Haupt
Consulting Editors: Mary Barberis, Patricia Cancellier, Elaine Murphy, Jean van der Tak, Robert P. Worrall
Demographic Editor: Carl Haub
Book Review Editor: Janice Beattie
Demographic Analysis Consultant: Leon F. Bouvier
Editorial Assistant: Karen Lombardi
Circulation Director: Jacki Majewski

Editorial and Circulation Offices
1337 Connecticut Avenue N.W.
Washington, D.C. 20036
Telephone (202) 785-4664
Cable: POPREF WASHINGTON DC

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Institution	100	130.00

Happy 5th Birthday, Populandia

> *"Then came a terrific explosion, and fire and smoke billowed up from the Pacific's depths. A tidal wave rocked our steamship, nearly swamping her. When the next day finally dawned, we descried to the west a new, mist-shrouded land on the horizon where only ocean had rolled before. We were then at latitude 25° 15' South, longitude 179° 20' West."*
>
> —Captain's Log, the U.S.S. Interdependence

Over five years have elapsed since a volcanic mini-continent some 160,000 square miles in area erupted from the floor of the Pacific Ocean. This major geologic event stunned the world; thus, the land itself was dubbed "Populandia," which means "Surprise, surprise" in a dialect of French Polynesia.

Unique among the world's continents, the new land was completely unpopulated—so the temptation to use it to ease world population pressures soon proved irresistible. In late 1977, the august World League of Countries convened a special plenary session, and after 5¼ days of heated debate, decreed that henceforth all the world's natural increase would be transported from their place of birth to Populandia, there to grow up in benevolent surroundings. (Natural increase is the "extra" people born, over and above those needed to replace the people who die; about 72 percent of the world's births represent natural increase.)

The rest, as veteran INTERCOM readers know, is history.* On Jan. 1, 1978, the first children began arriving at a hastily prepared airstrip on the now cool and verdant mini-continent. The first hundred Populandians, in fact, had been born during the first seven minutes of that fateful New Year's Day. The first *million* had been born by the end of Jan. 5. And by the end of 1978—a mere 365 days after Populandia's founding—some 73,247,105 children had been born in their respective countries and airlifted to the new land. Populandia had become (by Jan. 1, 1979), the country with the 10th largest population in the world.

And Now . . . .

And now, after five years? As of Jan. 1, 1983, Populandia's population has reached 365,909,046. It continues as the world's third most populous country, after China and India, a position it has held for over a year. It has broken the third-of-a-billion barrier. It is presently growing at about 216,916 babies per day. And the oldest Populandian (excepting the island's support staff) is barely five years old.

She is, as readers will recall, young Beverly Ming, born at the stroke of midnight Jan. 1, 1978 in the Tonga Islands. She is now a kindergartner. Every morning you can see Beverly on her way to school, walking down some crowded tricycle path (crowded, because Populandia's population density is now half again that of Bangladesh), wearing her "E.T." T-shirt and carrying her Smurfs lunchbox. She remains the senior citizen of a land that now contains 8 percent of all the people in the world. And has just begun to grow. ☐

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*Populandia articles have appeared in the following INTERCOM issues: Jan., March, June, and Sept., 1978; Jan, April, and Aug./Sept. 1979; Jan. and June 1980; Feb., July, and Nov./Dec. 1981.

1,008,175,288 People

How China Conducted Its 1982 Census

by Stewart E. Fraser

The 1953 and 1964 Censuses

The 1953 China Census (which found a population of 583 million) asked only five questions: name, sex, age, nationality (ethnic origin), and relationship of respondent to the head of the household (son, brother, granddaughter, etc.). Census collectors also had to indicate whether the respondents were urban or rural. This census was a relatively simple affair, involving "only" 2½ million census workers who covered China methodically on a scheduled series of visits over a year, according to a centralized master plan. Besides collecting demographic data, the 1953 Census also established eligible categories of voters, voter registration lists, and enabled election committees to be authorized.

The 1964 Census (which found a population of about 695 million) to this day remains something of a mystery. It did add three more items to the questionnaire (schooling level, occupation, and social, that is, "class," status). It involved over 5 million census workers and was of two weeks duration. However, the great catastrophe of the Cultural Revolution occurred barely two years after the census, and the results were never properly released. Not until 1972 did some provincial atlases provide a few useful clues as to the results, and as one senior census official told me, "the 1964 Census has probably been one of the largest demographic events of a nonreportable nature in our recent history."

Planning the 1982 Census

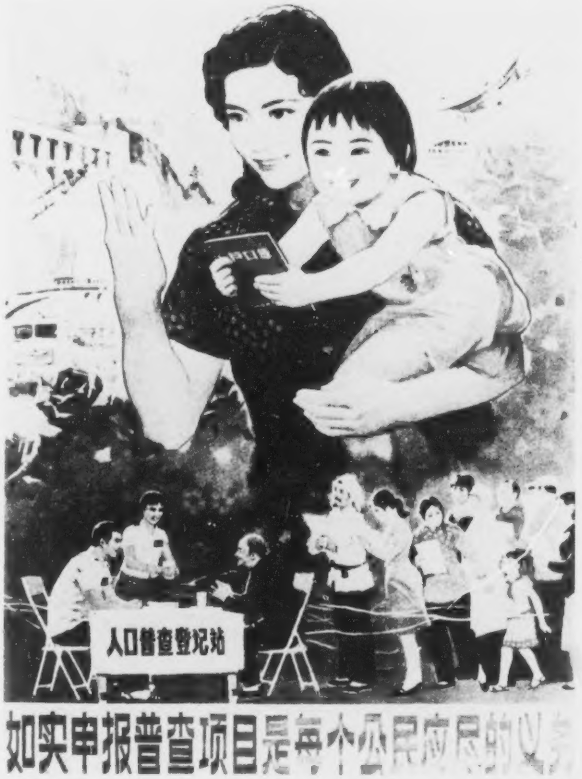
Originally, China's new census was scheduled for June 1980, with pretesting of census material and collection techniques to take place in October 1979. It was subsequently postponed to July 1981, with pretesting to be done in July 1980. However, after advice from U.N. Fund for Population Activities officials, a realization by the Chinese themselves that their plans were incomplete, and difficulties in obtaining the necessary computers, the census date was again changed, to July 1982.

The first Chinese census planning group visited the U.S. Census Bureau in mid-1979 on a needs and appraisal mission. Staff from the State Statistical Bureau in Beijing were sent to Washington, D.C., for overseas training in January and August 1980. In mid-1980, Chinese staff also made similar training visits to Japan.

During early and mid-1980, a series of pilot censuses were held throughout China. Over 2 million people took part in some 24 provinces. For example, in Sichuan, China's most populous province, Mianyang municipality was chosen to test the pilot census, in May 1981. Each of the province's prefectures and 212 county-level units conducted their own pilot census.

The Household Registration System

All Chinese are routinely expected to register their household address with local authorities. Each person over 15 is expected to have an identity card which states his or her name, birth date, and authorized place of residence. (A change in residence must be approved by local police.) Households have registration books in which births and deaths are recorded. This system has been in force since 1955, though the Cultural Revolution is said to have severely disrupted it. With such a registration system already in place, tallies indeed indicated that at the end of 1981, China had a population of over 996 million.


人口普查登记站
如实申报普查项目是每个公民应尽的义务

"The Truthful Return of Population Census Items Is the Obligation of Every Citizen" says the caption of this 1982 China Census poster. The child is holding a household registration book. Pictured at the bottom is a local Population Census Registration Center, where heads of household come to report.

photo by Stewart Fraser

How accurate is the registration system? According to the government, it is highly reliable. In late 1981, a sample census in Zhi Fang District (at Beijing) found some 73,000 people, only six of whom were not accounted for in the household registration books. One out of the six was a double registration, one had died, two had gone elsewhere, one was unregistered, and one could not be properly accounted for and was listed as "probably an itinerant peddlar or vagabond."

Censuses in countries other than China usually depend on a variety of sources for information, such as settlement maps and door-to-door and street surveys to provide household lists. China's dependence on a cross-tabulation between household registrations to census lists and rechecks based on the same dual linkage may not necessarily provide a satisfactory independent check of either system.

Continued on next page

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Factors Affecting the Census Count

The 1982 Census relied heavily on the registration system for address lists and cross checking. But questions have been raised about the registration system. During the Cultural Revolution, registration regulations were often ignored. And with the fervent one-child family campaign that began in earnest in 1979, families may try to hide multiple parity births, while local officials responsible for the success of the campaigns may wish to show statistics confirming that success.

Some couples actually send their second or third children to live with their grandparents in distant cities to evade scrutiny and criticism.

The Census Itself

Prior to the 1982 Census, a letter was sent to each household stating that a representative of that particular household would be required to visit a designated nearby local census station at a stated time between July 1 and July 10, the national census period. Household registration books would have to be produced and the information verified before being transferred to the census sheets. Each household representative was given half a day leave from work to provide census information.

A copy of the 1982 Census form, reprinted here in English, reveals the kind of questions asked and the detailed information sought. Some six household questions enquired as to the number of persons in each household as well as births, deaths and retired persons. Each person was asked their name, sex, age, nationality (i.e., ethnic origin), place of residence, and registration. Those above the age of 6 were asked their level of schooling–while those aged 15 and above were asked four specific questions relating to the kind of industry in which they worked, their present occupation or trade, the status of those who were not actually working, for example, students, unemployed or retired, and a question as to their marital status.

Women were asked two specific questions which related to their fertility, namely those aged between 15 and 64 were asked the number of children ever borne and now living, while more specifically women of childbearing age between 15-49 were asked to list in birth order any child born during 1981.

Many other questions considered for initial inclusion but eventually abandoned focused on the quality of life in urban areas and would have included questions on the kind of residential structure, the amount of living space, and the household amenities such as cooking facilities, piped water, plumbing, and availability of heating.

Census Peculiarities in China

Age counting. In China, people may give their age as greater than it is, because following Chinese custom they have counted their nine month gestation period as an additional year of life. Hence census enumerators asked respondents for their age in completed years, and required an actual birth date or identification with the representative animal of their birth year. Even most illiterates are expected to know the animal of their birth year.

Deliberately falsified age entries may also occur. During census an inspection team in Guangzhou province noted a variety of incorrectly stated ages: men who were close to 30 understating their ages to enable them to find wives; younger girls who declared themselves over 20 to make the legal marriage age; and some multiparous women around 40 who declared themselves much older to escape sterilization coercion.

Continued on next page

First Results of China's July 1, 1982, Census

China	1,008,175,288
Beijing (Including the population of the nine counties under the direct administration of Beijing, 3,632,715)	9,230,687
Tianjin (Including the population of the five counties under the direct administration of Tianjin, 2,621,576)	7,764,141
Hebei Province	53,005,875
Shanxi Province	25,291,389
Inner Mongolia Autonomous Region	19,274,279
Liaoning Province	35,721,693
Jilin Province	22,560,053
Heilongjiang Province	32,665,546
Shanghai (Including the population of the ten counties under the direct administration of Shanghai, 5,538,876)	11,859,748
Jiangsu Province	60,521,114
Zhejiang Province	38,884,603
Anhui Province	49,665,724
Fujian Province	25,931,106
(Including the population of Jinmen and Mazu and a few other islands, 57, 847)	
Jiangxi Province	33,184,827
Shandong Province	74,419,054
Henan Province	74,422,739
Hubei Province	47,804,150
Hunan Province	54,008,851
Guangdong Province	59,299,220
(The figures for the population of the Dongsha Islands and Nansha Islands are not included)	
Guangxi Zhuang Autonomous Region	36,420,960
Sichuan Province	99,713,310
Guizhou Province	28,552,997
Yunnan Province	32,553,817
Tibet Autonomous Region	1,892,393
Shaanxi Province	28,904,423
Gansu Province	19,569,261
Qinghai Province	3,895,706
Ningxia Hui Autonomous Region	3,895,578
Xinjiang Uygur Autonomous Region	13,081,681
Members of the armed forces	4,238,210

Sex ratio: 106.3 males per 100 females

Birth rate: 20.91 births per 1,000 population, as of 1981.

Death rate: 6.36 deaths per 1,000 population, as of 1981.

Rate of natural increase: 1.455 percent.

Ethnic distribution: the Han nationality, 93.3 percent, minority population, 6.7 percent.

Urban-rural population distribution: 20.6 percent urban, 79.4 percent rural.

Education: Percentages of the national population that have attended or are attending school at the following levels: university, 0.59 percent; senior middle school, 6.62 percent; junior middle school, 17.76 percent; primary school, 35.38 percent.

Illiteracy: 23.5 percent of persons 12 and over (according to respondents' self-categorization).

Note. These results are given for the 29 provinces, municipalities, and autonomous regions of the mainland, covered by the census.

Minorities. The 1982 Census should provide much new data for determining the composition and buildup of China's 55 minority populations (which together compose 6.7 percent of the national population). Minority languages were used on the census forms when necessary; on the Tibetan forms certain questions were apparently omitted, namely those pertaining to the status of nonworkers in the household, marital status, births and deaths in the household, and persons absent from the household more than a year. I have been unable to obtain confirmation of these omissions, the reason for them, or whether they were omitted only on the Tibetan forms or on other minorities' forms as well.

Incidentally, the minority groups are so far exempted from the one-child family policy for a variety of social and geopolitical reasons, and especially because nearly all China's minorities live in areas bordering the Soviet Union, Korea, Inner Mongolia, Vietnam, Thailand, India, Nepal, Burma, and Afghanistan.

Compilation

1982 marks the first China census to make extensive use of computers, and this precedent points up the fact that all words and data from the questionnaires have to be laboriously transcribed into figures before they can be placed on computer tapes for sifting by the 29 provincial computers (21 contributed by UNFPA, 8 bought by China), and the new central computer, an IBM 4841, housed in a new 14-story building near Tien An Min square in Central Beijing.

Some 100,000 translating operators have been employed for the purpose of "turning facts and names into numbers" for the 4,000 software developers and 1,000 computer operators who staff the computers. Meanwhile, a staff of over 200 demographers and statisticians is said to be diligently at work to interpret the data and make them both presentable and understandable.

The initial release of preliminary figures was made in October 1982. The full census report, based on computer analysis of the data, will be published by October 1984. ☐

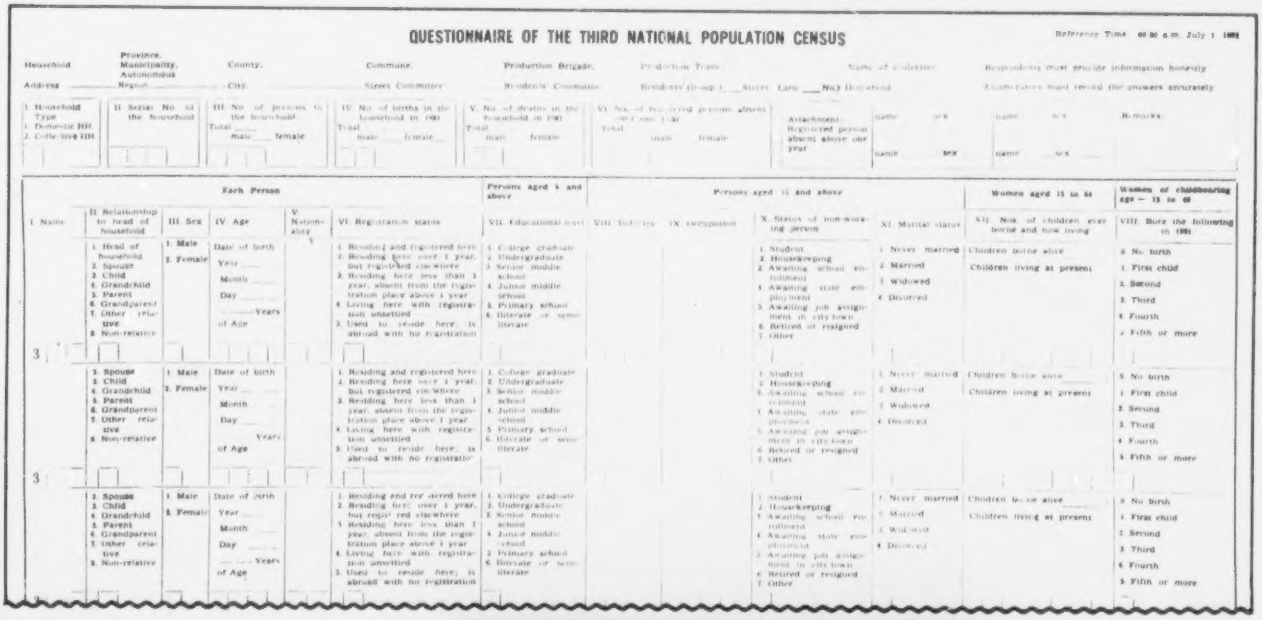
Stewart E. Fraser is Professor of Education, Population Education Studies, in the Centre for Comparative and International Studies in Education, School of Education, La Trobe University, Bundoora, Victoria, Australia. During the past decade he has visited China almost annually, and in May and June 1982, he traveled in China undertaking feasibility studies on behalf of the Australian Development Assistance Bureau. He is the author of *China: Population, Education, and People*, forthcoming in 1983 from M.E. Sharpe, Inc., New York.

Background information utilized in this article, and gratefully acknowledged, include:

1. John S. Aird, "Recent Demographic Data From China: Problems and Prospects," (see especially Section V, The 1982 Census) pp. 172-223 in *China Under The Four Modernizations* Part 1. Selected Papers Submitted to the Joint Economic Committee, Congress of the United States, U.S. Government Printing Office, Washington, 1982.
2. John S. Aird, "Population Studies and Population Policy in China," pp. 1-51 (revised version of discussion paper presented at 19th General Conference of International Union for the Scientific Study of Population, Manila, Philippines, December 14, 1981.)
3. See also "Population Studies and Population Policy in China," *Population and Development Review*, Vol. 8, No. 2, June 1982, pp. 267-297.
4. Leo A. Orleans, "China's Urban Population: Concepts, Conglomerations and Concerns," in *China Under The Four Modernizations*, pp. 268-302.
5. Audrey Donnithorne, "The Chinese Census of 1982: Preparations, Conduct and Evaluation," unpublished paper delivered September, 1982, Demography Department, Australian National University, Canberra ACT pp. 1-10.

Acknowledgement is made to a variety of Chinese demographers who especially during the past year have shared generously of their time, talents and research with the author in discussing topics involving population trends, family planning topics and the preparations for the Third National Census of 1982.

These colleagues would include: Professor Liu Zheng, Institute of Population Research, Peoples University of China, Beijing; Professor Chang Chun-yuan, Deputy Director, Population Research Institute, Department of Economics, Beijing University, Beijing; Mr. Yu Bian Yuang, Vice-Director of the Beijing Census Committee; Mr. Zhang Wensong, Vice-Minister, Ministry of Education; Mr. Hu Shouxin, Deputy Director, Foreign Affairs Bureau, Ministry of Education; Professor Hu Weiweh, Section Chief (Political [Demography] Economy) Beijing Institute of Education; Professor Wu Fei Dan, Population Research Group, Fundan University, Shanghai; Professor Liu Rong, Population Research Institute, Zhongshan University, Guangzhou; and Professor Zhao Shi Li, Population Institute, Sichuan University, Chengdu, Sichuan; and also specially UNFPA officials in Beijing including Mr. Sjaak I. Bavelaar and Ms Joan Kaufman.



QUESTIONNAIRE OF THE THIRD NATIONAL POPULATION CENSUS

Reference Time 00 00 a.m. July 1 1982

Household Address ______ Province, Municipality, Autonomous Region ______ County, City ______ Commune, Street Committee ______ Production Brigade, Residents' Committee ______ Production Team, Residents' Group (___ Street Lane ___ No.) Household

Name of Collective:

Respondents must provide information honestly

Enumerators must record the answers accurately

I. Household Type 1. Domestic HH 2. Collective HH	II. Serial No. of the household	III. No. of persons in the household Total ___ male ___ female	IV. No. of births in the household in 1981 Total ___ male ___ female ___	V. No. of deaths in the household in 1981 Total ___ male ___ female	VI. No. of registered persons absent over one year Total ___ male ___ female	Attachment: Registered person absent above one year	name ___ sex ___ name ___ sex ___ name ___ sex ___ name ___ sex ___

Remarks:

Each Person						Persons aged 6 and above	Persons aged 15 and above				Women aged 15 to 64	Women of childbearing age — 15 to 49
I. Name	II. Relationship to head of household	III. Sex	IV. Age	V. Nationality	VI. Registration status	VII. Educational level	VIII. Industry	IX. Occupation	X. Status of non-working person	XI. Marital status	XII. Nos. of children ever borne and now living	VIII. Bore the following in 1981
3	1. Head of household 2. Spouse 3. Child 4. Grandchild 5. Parent 6. Grandparent 7. Other relative 8. Non-relative	1. Male 2. Female	Date of birth Year ___ Month ___ Day ___ ___ Years of Age		1. Residing and registered here 2. Residing here over 1 year, but registered elsewhere 3. Residing here less than 1 year, absent from the registration place above 1 year 4. Living here with registration unsettled 5. Used to reside here, is abroad with no registration	1. College graduate 2. Undergraduate 3. Senior middle school 4. Junior middle school 5. Primary school 6. Illiterate or semi-literate			1. Student 2. Housekeeping 3. Awaiting school enrollment 4. Awaiting state employment 5. Awaiting job assignment in city/town 6. Retired or resigned 7. Other	1. Never married 2. Married 3. Widowed 4. Divorced	Children borne alive Children living at present	0. No birth 1. First child 2. Second 3. Third 4. Fourth 5. Fifth or more
3	2. Spouse 3. Child 4. Grandchild 5. Parent 6. Grandparent 7. Other relative 8. Non-relative	1. Male 2. Female	Date of birth Year ___ Month ___ Day ___ ___ Years of Age		1. Residing and registered here 2. Residing here over 1 year, but registered elsewhere 3. Residing here less than 1 year, absent from the registration place above 1 year 4. Living here with registration unsettled 5. Used to reside here; is abroad with no registration	1. College graduate 2. Undergraduate 3. Senior middle school 4. Junior middle school 5. Primary school 6. Illiterate or semi-literate			1. Student 2. Housekeeping 3. Awaiting school enrollment 4. Awaiting state employment 5. Awaiting job assignment in city/town 6. Retired or resigned 7. Other	1. Never married 2. Married 3. Widowed 4. Divorced	Children borne alive Children living at present	0. No birth 1. First child 2. Second 3. Third 4. Fourth 5. Fifth or more
	2. Spouse 3. Child 4. Grandchild 5. Parent 6. Grandparent 7. Other relative 8. Non-relative	1. Male 2. Female	Date of birth Year ___ Month ___ Day ___ ___ Years of Age		1. Residing and registered here 2. Residing here over 1 year, but registered elsewhere 3. Residing here less than 1 year, absent from the registration place above 1 year 4. Living here with registration unsettled 5. Used to reside here; is abroad with no registration	1. College graduate 2. Undergraduate 3. Senior middle school 4. Junior middle school 5. Primary school 6. Illiterate or semi-literate			1. Student 2. Housekeeping 3. Awaiting school enrollment 4. Awaiting state employment 5. Awaiting job assignment in city/town 6. Retired or resigned 7. Other	1. Never married 2. Married 3. Widowed 4. Divorced	Children borne alive Children living at present	0. No birth 1. First child 2. Second 3. Third 4. Fourth 5. Fifth or more

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Raising a $200,000+ Child

It could cost more than $200,000 in direct out-of-pocket costs to raise a child to age 22 in the U.S., according to new calculations by a Washington researcher.

Lawrence Olson's projections take as their base, historic family spending patterns for childraising as related to real family income. Olson then projects the family's real income increase into the future, with the assumption that childraising expenditures will continue to bear their historical relationship to real income. The result, according to his estimates, is that on average a U.S. family can expect to spend $226,000 to raise a first-born son to age 22, and $247,000 to raise a first-born daughter. (All figures are in constant 1982 dollars.)

Olson's figures are contained in his new book *Costs of Children*. They contrast with notable previous estimates of the cost of raising children. Namely:

Thomas Espenshade, writing in INTERCOM in Sept. 1980, updating his 1978 estimate, put the direct figure at $85,000 in 1980 constant dollars for a "moderate cost" child. (This estimate comprises cost of childbirth + costs after childbirth until 18 + four years at a public university.)

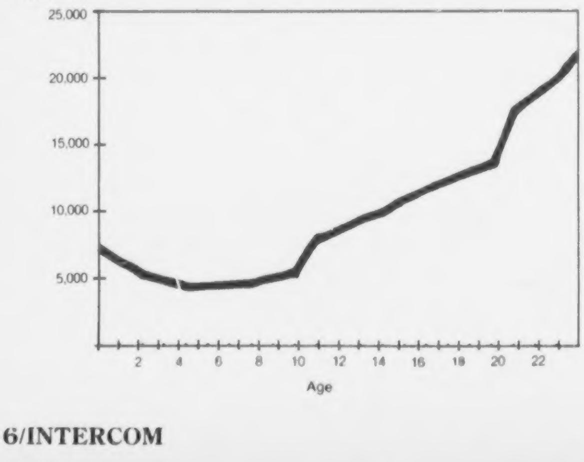
Carolyn S. Edwards of the U.S. Dept. of Agriculture in 1981 updated her previous estimates of these costs by region; she found, for example, the direct cost in 1980 dollars of raising a Northeast urban child to age 18 to be $69,000. (This estimate comprises costs after childbirth until age 18.)

Thomas Trilling, writing in *Parents* magazine in November 1980, took the government figures and calculated in possible rates of inflation in future years. Assuming 5 percent inflation for the next 18 years, the direct cost of raising a child to age 18 would be $105,286. Assuming 10 percent inflation, it would be $175,511.

"The earlier estimates are less comprehensive, often covering fewer years, and are based on expenditure patterns from the 1960s," says Olson. "They also lack econometric projections of family income growth, an important factor elevating the amount spent on children. Furthermore, the Agriculture Dept. figures and other projections based on them specify costs required to raise a child. Our numbers attempt to estimate what parents will actually spend."

Olson projects lower costs for poorer families ($121,000 for a first-born son in a low-income family) and $323,000 for a relatively high-income family. For the average family cited earlier, costs of raising a first-born son comprise 24.2 percent of total family income over the period; for daughters, the sum is 26.4 percent.

Average Family's Cost of Raising a Son



Why the higher figure for girls? Olson attributes it to higher costs for transportation and for such items as entertainment (including a wedding), cosmetics, and so forth.

These costs vary from year to year in the child's life (see graph). The year of birth is expensive, but then costs go down to age 5 and then gradually increase. As the child reaches the teens, the cost increase accelerates, especially if (as Olson posits) the child attends a private college for four years. By that time, hopefully, the parents' income will also have increased proportionately. But in general, the expenses involved in bringing up a child (food, clothing, transporta-

Last of a series
prepared by Carl Haub

This month's installment of INTERCOM's series on national population policies concludes with a summary of population policy by world regions and subregions. The table opposite gives the percentage of each area's population living in countries with three different views of population growth, with the number of countries in parentheses. The countries used in compiling the table are those listed on PRB's 1982 *World Population Data Sheet* (i.e., countries with 150,000 or more population and all United Nations members), with the exception of a few small countries whose policies are either unknown or difficult to determine.

Given the difficulty of classifying policies, the figures presented are estimates, based upon the most recent reports available. The expression of population policy by a government can often be shaded with ambiguity for political reasons so that fitting their policies into discrete categories as in the table can sometimes involve judgmental decisions. Nonetheless, the figures should provide an acceptably accurate picture of regional policies.

As can be seen on the chart, four our of five people in the less developed world (or some 2.7 billion people) live in countries which now have official policies to slow population growth. This proportion includes the two population "giants," China and India. Some 3 percent of the less developed world live in countries whose governments believe that population growth is too slow; these countries, mainly in Africa, tend to be relatively small, with populations that average less than 5 million.

Population policy has an entirely opposite connotation when applied to the developed countries. Here, the "problem" when it is perceived as such is that of low, rather than high, birth rates. While most MDCs adopt a laissez-faire attitude toward a couple's choice as to their number of children, a number of European countries have been increasingly concerned about population projections which indicate declining populations in the near future. This concern may stem in part from national pride or from realistic economic concerns about a declining labor force and an aging, dependent population.

INTERCOM hopes that this series has proven useful to its readers. New information or comments regarding the population policies of countries as set forth here are always welcome. ☐

Population Policies Around the World: A Summary

Percentage of the population in each region or subregion broken down by government population policies (No. countries under each policy in parentheses)

	Government policy perception of nation's population growth rate		
	Too high	Satisfactory	Too low
World	60 (56)	29 (78)	12 (29)
More developed countries	—	62 (25)	38 (8)
Less developed countries	80 (56)	17 (53)	3 (21)
Less developed countries (excluding China)	71 (55)	24 (53)	4 (21)
Africa	41 (19)	55 (26)	4 (16)
Northern Africa	80 (4)	17 (1)	3 (1)
Western Africa	14 (3)	77 (11)	9 (2)
Eastern Africa	33 (7)	67 (9)	—
Middle Africa	16 (1)	78 (5)	6 (3)
South Africa	100 (4)	—	—
Asia	90 (15)	9 (15)	1 (10)
Asia (excluding China)	84 (14)	14 (15)	2 (10)
Southwest Asia	45 (1)	36 (7)	19 (7)
Middle South Asia	98 (6)	2 (3)	—
Southeast Asia	87 (5)	11 (2)	3 (2)
East Asia	88 (3)	12 (3)	1 (1)
North America	—	100 (2)	—
Latin America	34 (19)	52 (11)	14 (5)
Middle America	94 (5)	6 (3)	—
Caribbean	67 (13)	33 (2)	—
Tropical South America	9 (1)	87 (6)	4 (2)
Temperate South America	—	—	100 (3)
Europe	—	67 (20)	33 (7)
Northern Europe	—	100 (7)	—
Western Europe	—	25 (4)	75 (3)
Eastern Europe	—	67 (3)	33 (3)
Southern Europe	—	93 (6)	7 (1)
USSR	—	—	100 (1)
Oceania	5 (3)	95 (4)	—

Sources. For references and a country-by-country assessment of national population policies, see the earlier installments of this series, in the April, May/June, July/August, and September/October 1982 issues of INTERCOM.

tion, medical care, housing, education) are difficult to cut. Thus, Olson suggests, couples may be very conscious of the impending expenses involved in the raising of a child, and may have fewer children rather than attempt to cut expenses per child.

Fortunately, the first child is most expensive. The per-child cost lessens with each additional child, as items are shared and as available income left over after each previous child shrinks. The cost for an average family for one girl is calculated at 26.4 percent of all income. By the time the family reaches *five* girls, the cost has risen to a sobering 75.4 percent—but only about 15 percent per girl.

Olson finds that black families spend a relatively greater proportion of their income on their children than nonblack families, other factors remaining constant. Parents who are relatively young or have greater education also tend to spend more. Single-parent families, by contrast, spend a lesser proportion on their children than do equivalent two-parent families.

Olson is an economist who specializes in analysis and forecasting of labor markets. He is vice president of the Washington-based SAGE Associates, a consulting firm that assists corporations in economic planning. His book *Costs of Children* was published in October by Lexington Books. ☐

demographer's page

Thomas J. Espenshade is a senior Research Associate in the Human Resources Policy Center at The Urban Institute. Views expressed here belong to the author and do not necessarily represent those of The Urban Institute or any of its sponsors.

A (Net) Net Reproduction Rate?

by Thomas J. Espenshade

This Demographer's Page introduces into demographic discussion a new measure of fertility, one that combines the influences of both mortality and out-migration and one that has greater significance than the more traditional net reproduction rate when consideration is given to forces shaping population growth and structure that include immigration and emigration along with fertility and mortality.

The Standard Fertility Measures

Before describing our new fertility measure, let us briefly review some of the standard measures:[1]

Crude Birth Rate (CBR). Usually calculated as the annual number of births per 1,000 persons in the population. Calculation of the CBR requires a minimal amount of information and takes no cognizance of that portion of the population responsible for the production of births.

General Fertility Rate (GFR). The annual number of births per 1,000 women in the childbearing ages. The GFR remedies one deficiency of the CBR but is sensitive to changes in the age distribution of women within the childbearing ages.

Total Fertility Rate (TFR). An aggregation of age-specific birth rates. It can be interpreted as the average number of lifetime births per woman for those women who survive to the end of the childbearing ages.

Gross Reproduction Rate (GRR). Like the TFR, but limited to female births. If the sex ratio at birth is 105 male births for every 100 female births, then the GRR is related to the TFR by $GRR = TFR \times [(100) \div (105 + 100)]$. The GRR is more commonly relied upon than the TFR in formal demography because it restricts the argument to single-sex populations that are simpler to analyze.

Net Reproduction Rate (NRR). By itself, the GRR provides insufficient information about the long-term growth prospects in populations assumed to be closed to in-migration and out-migration. We also need to know the level of mortality. Both fertility and mortality influences are combined in the NRR.

The NRR can best be thought of in the following way. Imagine a new cohort of 1,000 females starting off life together, and suppose that, as this cohort ages, it is subject to the age-specific fertility and mortality rates observed in an actual population. The NRR is the total number of daughters that would be born to this cohort by the time it reaches the end of the childbearing ages divided by 1,000 – the number of females in the original cohort. An NRR is similar to a GRR except the NRR also incorporates the influence of mortality. If there were *no* mortality prior to the end of the childbearing ages, then NRR = GRR. But given any mortality at all prior to age 45 or 50, the NRR will be less than the GRR, and the higher the mortality rate the greater the discrepancy.

The NRR can be used to gauge long-term population growth prospects in closed female populations, assuming that fertility and mortality rates remain fixed. An NRR equal to 1.00 ("replacement level") means that a birth cohort of 1,000 females will eventually be replaced by 1,000 daughters who in turn will be replaced by another 1,000 daughters. Therefore, such a population will eventually become stationary with a growth rate of zero. If the NRR is greater than 1 ("above replacement level") future birth cohorts will be larger than current birth cohorts and the population will experience long-term growth. Values of the NRR less than 1 ("below replacement level") signify that fertility levels are insufficiently high in the face of observed mortality to replace the population, so that in the long run the population will become progressively smaller.

A (Net) Net Reproduction Rate

Given that immigration and emigration are now potentially important sources of population change for the United States and many other developed countries, it behooves us to broaden our thinking beyond closed populations and to incorporate new demographic realities into our analysis. For such purposes the conventional NRR is unsatisfactory because it neglects another way besides death that populations can lose members: emigration.

Since, as far as population growth and structure go, the outcome of a person emigrating at age 30 is the same as their dying at age 30, out-migration can be incorporated into formal demographic analysis as an augmentation of age-specific death rates. If the forces of mortality and emigration can be assumed to operate independently, then death rates at each age can simply be increased by the emigration rate at that age to capture the effect of out-migration. We may then define a net net reproduction rate (NNRR), a fertility rate that includes not only the net influence of mortality, but of out-migration as well, as follows.

Imagine a cohort of women starting off life together and subject at each age to age-specific rates of birth, death, and out-migration observed in a particular population. Then NNRR is the total number of *native-born* daughters this cohort would produce by the end of the childbearing ages, divided by the number of women in the original birth cohort. Fertility would then be above, at, or below replacement depending upon whether NNRR >1, $= 1$, or <1, respectively.

Examples

Table 1 has been prepared to show the interactive influences of mortality and emigration as determinants of NNRR. In this table, the same age-specific fertility schedule underlies all calculations. Specifically, we have adopted from the Coale and Demeny set of model stable populations for "West Females" a fertility schedule with a GRR = 1.000 and a mean age of childbearing equal to 29 years.[2] The alternative levels of mortality, indicated by their associated life expectancies at birth, are also taken from the Coale-Demeny model life tables for West females. We have been arbitrary in our choice of alternative levels of out-migration and, for simplicity, have assumed that, within each level, emigration rates are constant across all ages. This latter assumption is clearly a gross oversimplification,[3] but this assumption does little practical harm to the examples presented here.

Values of NNRR in the first column of the table assume no out-migration and are equivalent to the more traditional NRR. Since life expectancy at birth for U.S. females is approximately 77.5 years we may see, for example, why replacement-level fertility (in the absence of emigration) currently corresponds to an average of approximately 2.1 lifetime births per woman. A GRR = 1.000, when coupled with mortality compatible with life expectancy at birth of 77.5 years and no out-migration, produces an NRR of 0.985. For fertility to be "at replacement," the value of NRR must equal 1.000, which implies a GRR = 100 ÷ 0.985 = 1.015. Since the TFR = GRR × 2.05 (where 2.05 is the assumed ratio between total births and female births), TFR = 1.015 × 2.05 = 2.08.

Higher age-specific emigration rates have the same effect as higher age-specific death rates, and it for this reason that in Table 1 values of NNRR decline moving down the columns (higher mortality) or across the rows (higher emigration). For a given level of the GRR, the NNRR is lowest when high mortality (e.g., life expectancy of 30 years) is combined with high out-migration (e.g., 2.5 percent of the population emigrates each year). Under these extreme conditions, a GRR of 1.000 results in an NNRR of only 0.233, which means women are replacing less than one-fourth their number.

Table 1.
Values of the NNRR Corresponding to Alternative Levels of Life Expectancy at Birth and Emigration, for GRR = 1.000, Mean Age of Childbearing = 29 years, West Females

Life Expectancy at Birth (in years)	Age-Specific Rate of Emigration*						
	0.0	.001	.005	.010	.015	.020	.025
77.5	0.985	0.957	0.852	0.739	0.641	0.557	0.484
75.0	0.972	0.945	0.842	0.730	0.633	0.550	0.478
70.0	0.938	0.912	0.812	0.704	0.611	0.531	0.462
60.0	0.840	0.817	0.728	0.632	0.548	0.477	0.415
50.0	0.726	0.705	0.629	0.546	0.475	0.413	0.359
40.0	0.602	0.585	0.523	0.454	0.395	0.344	0.300
30.0	0.466	0.453	0.405	0.352	0.307	0.267	0.233

*A constant age-specific emigration rate is assumed in these examples.

One practical use of this table is to show that when emigration is taken into account, total fertility rates on the order of 2.1 no longer necessarily correspond to replacement-level fertility. Higher fertility is required to offset the out-migration of females at ages below the oldest age of childbearing. For example, suppose 1 percent of females at each age emigrate each year and that life expectancy at birth equals 77.5 years. The NNRR would be 0.739 (see table). Then women who survive to the end of their childbearing ages and remain in their country of birth would have to bear an average of 2.77 births ([1.00 ÷ 0.739] × 2.05 = 2.77) to keep fertility at replacement level.

Since in the absence of both mortality and emigration, an average of 2.05 lifetime births per woman (1 female and 1.05 males) would be required to maintain a stationary population, the excess of 0.72 births per woman (2.77 − 2.05) is the extra fertility needed by those who survive to the end of childbearing in their country of birth to offset the mortality and emigration experienced by others.

If, under these circumstances, the total fertility rate were just 2.5 lifetime births per woman and if there were no immigration, the long-term population would experience chronic shrinkage despite this 2.5 TFR that by conventional standards (i.e., when emigration is ignored) would be substantially above replacement. The reader may make similar calculations with other combinations of mortality and emigration to find the replacement-level TFR.

Significance

Up to this point we have hardly mentioned immigration. What happens when immigration is also taken into account, and why have we not chosen to incorporate immigration along with emigration into the NRR? To answer the second question first, the population at risk of dying and of out-migrating is identical, and it is this fact that permits us to capture the influence of emigration through a simple increase in the mortality schedule. But the population at risk of immigrating is entirely different. In the broadest sense, it consists of "the rest of the world." Therefore, because of the dissimilarity between the relevant populations at risk, it is not satisfactory to incorporate immigrants along with emigrants, or even net immigration or net emigration, in the NNRR concept.

But an equally compelling reason for wanting to separate immigration from emigration is that part of the formal analytical work to incorporate immigration into demographic growth models has already been accomplished. If a population whose fertility is below replacement level (NRR < 1) receives a constant annual number of immigrants (with a fixed age distribution) each year, it eventually becomes stationary with a fixed size and a zero growth rate, assuming that fertili-

Continued on next page

U.S. Population Could Stop Growing at 309 Million

The U.S. population could peak at 309 million by 2050, according to new projections prepared by the U.S. Census Bureau.

The projections mark the first time a Census Bureau middle-series projection has shown zero population growth occurring in America's future. Heretofore, only lowest-series projections had come to that conclusion, while middle series had shown U.S. population growth continuing throughout the period being projected.

Projections, of course, depend on their assumptions. The new middle-series projection assumes that U.S. women will continue to average 1.9 births during their childbearing years (as of 1982, they average 1.9); that net migration into the U.S. will average 450,000 annually; and that life expectancy at birth will reach 79.6 years by 2050 (as of 1978, it was 73.3 years).

Given these assumptions, the population totals projected during the coming decades are given as follows:

(in 000s)

1982	231,997
1990	249,731
2000	267,990
2010	283,141
2020	296,339
2030	304,330
2040	307,952
2050	308,856

During this population growth, the projections show the following trends:

- By 2035, deaths (3.6 million annually) would equal births, and population growth would be accounted for by immigration. By 2050 there would be 3.5 million births and 3.9 million deaths annually.
- The percentage of people 65 years old and over would increase from 11.4 in 1981 to 13.1 in 2000 and 21.7 in 2050. Thus, the ratio between the working-age population (18-64) and the retirement age would decline from 5.4 to 1 in 1981 to 4.7 to 1 in 2000 and down to 2.6 to 1 by 2050. This dropping ratio of workers to retirees could have important long-range implications for Social Security.
- The population 85 years and older would rise from 1.0 percent of the population in 1981 to 1.9 in 2000 and 5.2 in 2050 (more than one out of every 20 people).
- Meanwhile, the number of children aged 5 to 13 would decline from 30.7 million in 1981 to 29.6 million in 1985, increase to 34.4 million by 1995 and then fall to 32.6 million in 2050.
- The number of children in secondary school – ages 14 to 17 – would decrease from 14.9 million in 1981 to 12.9 million in 1990 before increasing to 15.4 million in 2000 and dipping to 14.6 million in 2050.
- The black population of the U.S. is projected to increase from 11.9 percent in 1981 to 13.4 in 2000 and 16.8 in 2050.

These numbers are all based on the middle-series projection. For comparison, the assumptions and 2050 results of all three Census Bureau projections are summarized below:

Item	Series Highest	 Medium	 Lowest
Total fertility rate	2.3	1.9	1.6
Net migration per yr.	750,000	450,000	250,000
Life expectancy	83.3	79.6	76.7
Year pop. growth ends	NA	2050	2030
Pop. in that year (000s)	NA	308,856	256,090
Pop. in 2050 (000s)	428,564	same	230,813

These figures are all based on projection, and the study's authors, Gregory Spencer and John Long, take pains to note that "the actual future course of population size could vary considerably from the middle projection due to variations in fertility, mortality, and immigration."

In addition, one population-growth component, illegal migration, could be crucial. If the influx of illegal aliens is substantial, as some analysts believe, it could significantly affect total U.S. population size in the future. ☐

Single copies of the report, Projections of the Population of the United States: 1982 to 2050 (Advance Report), P-25, No. 992 (GPO Stock No. 003-001-91418-2), are available for $2.75 each from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

demographer's page

Continued from preceding page

ty, mortality, and immigration remain constant (as I have shown with Leon Bouvier and Brian Arthur).[4]

The incorporation of emigration into this model is straightforward. Now, if fertility is below replacement in the expanded sense that NNRR <1 and if a constant annual number of immigrants whose age distribution is also constant is added to the population each year, such a population will in the long run become stationary (with fertility, mortality, *and* emigration schedules fixed). The significance of this finding is that, depending upon the level and age pattern of emigration rates in the context of a continuing influx of immigrants, fertility can be above a total fertility rate of 2.1 (a figure typically associated with replacement-level fertility in low-mortality countries when emigration is ignored) and still produce a stationary population in the long run. ☐

References

1. Some standard measures described in this section may be computed from either period or cohort data. We concentrate on their period interpretations.
2. Ansley J. Coale and Paul Demeny, *Regional Model Life Tables and Stable Populations.* (Princeton, New Jersey: Princeton University Press, 1968) pages 74 and following.
3. Luis J. Castro and Andrei Rogers, "Model Migration Schedules: A Simplified Formulation and an Alternative Parameter Estimation Method," Working paper WP-81-63, Laxenburg, Austria: International Institute for Applied Systems Analysis, 1981.
4. Thomas J. Espenshade, Leon F. Bouvier, and W. Brian Arthur, "Immigration and the Stable Population Model," *Demography*, Vol. 19, No. 1 (February 1982) pp. 125-133.

Continued from page 1

directly for the low-level jobs on which many blacks must still rely."

The 1980 Census counted 26.5 million blacks, 11.7 percent (over one-ninth) of the total U.S. population, then 226.5 million. In the first census of 1790, the nation's 750,000 blacks comprised nearly one-fifth of the U.S. population. This proportion gradually dropped because immigration has since added almost uninterruptedly to the white population, while black immigration eventually ceased after the importing of slaves was banned in 1808. (Only in recent years has black immigration picked up, with the arrival of increasing numbers of Africans and Caribbean blacks.) By 1930 the black proportion of the total population was down to 9.7 percent. Since then it has increased slowly, due mainly to the fertility differential between blacks and whites.

Because of higher fertility, the black population has always been "younger" than the white population, with a current median age of 25 compared to the white median of 31. Along with this relatively more youthful population goes a higher "dependency ratio"–92 persons under 15 or over 64 for every 100 blacks in the "working ages" (15-64) compared to just 74 for whites–a fact that "has important implications for integration," Reid points out.

On one score, blacks outstrip whites, he reports: The 1980 Census found 85 percent of blacks living in urban areas versus 71 percent of whites. This reflects blacks' long trek out of rural areas in the South to industrial centers of the North, beginning after World War I. In the 1970s this historical pattern was reversed as blacks joined the general migration stream to–or back to–the South. For blacks this did not mean a return to rural living–a trend among many whites–but urban blacks did begin to follow whites to the suburbs in the 1970s. However, blacks still make up only 6 percent of the nation's suburban population and the overwhelming majority of blacks remain in central cities, Reid notes. In 1960 Washington, D.C., was the only metropolitan central city of 100,000 or more residents with a black majority. By 1980 there were eight more: Gary, Indiana, Atlanta, Detroit, Newark, Birmingham, New Orleans, Baltimore, and Richmond, Virginia.

Like whites, blacks have experienced a baby bust since the mid-1960s, Reid observes, but still average a higher 2.3 births per woman compared to 1.8 for white women. Black teenage fertility rates, while now falling as with white teenagers, are still two to three times those of white teenagers, and out-of-wedlock fertility remains high–55 percent of all black births compared to 9 percent for whites in 1979, according to latest available figures. Black leaders are now organizing to tackle these problems, Reid says, along with the related problem of large numbers of female-headed families. In 1980, single parents (mostly mothers) with children made up 31 percent of all black families compared with 10 percent for the general population–a reflection also of blacks' higher rates of separation and divorce, Reid points out.

In life expectancy, blacks have made significant gains since the turn of the century when the average black newborn could expect to live only 33 years compared to 48 years for white newborns. But the latest data–for 1979–show black life expectancy still six years short of whites' (68.3 years versus 74.4 years) and black infant mortality nearly double that of whites (21.8 deaths under age one for every 1,000 births versus the white rate of 11.4).

"Many of these gaps are related to blacks' continuing socioeconomic disadvantages," says Reid. Among others, he notes:

- Though blacks age 25 and over now report nearly as many years of schooling as whites, on average (12.0 versus 12.5 years), only 8 percent of black adults compared to 18 percent of whites can boast of a college degree–"the admission ticket to socioeconomic advancement." College enrollment of blacks aged 18-24 nearly doubled from 10 percent in 1965 to 19 percent in 1981, but may now slow with current cutbacks in federal student loans.
- In 1980, 40 percent of black workers were in white-collar jobs compared to 54 percent of whites–up from just 11 percent and less than a third of the figure for whites in 1960. But blacks are still underrepresented in the best-paying jobs–among men, blacks make up only 2 to 3 percent of engineers, physicians, lawyers, and college professors. Black women do better at 5 to 7 percent of all female physicians, lawyers, and college teachers (though very few are engineers).
- Black median family income inched up to 62 percent of the median for white families in 1975, but dropped back to 56 percent of the white level in 1981–$13,266 versus $23,517–below the 57 percent level of 1960.
- In 1981, 30.8 percent of black families fell below the Census Bureau's poverty level–3½ times the 8.8 percent of white families classified as poor. This was slightly greater than the gap in 1959 (48 percent versus 15 percent) when the Census Bureau began measuring poverty.
- The latest October 1982 unemployment figures show black unemployment (20.2 percent) at more than twice the rate of white unemployment (9.3 percent)–also a gap that has persisted as long as such statistics have been gathered.

Reid finds the black unemployment figures particularly ominous. He points out that many blacks have been first fired in the current recession because they were the last hired and many won't be rehired because their jobs are being eliminated as the U.S. shifts from traditional industry to the high-technology age. He urges "immediate and urgent" attention to upgrading of blacks' education, training, and retraining to meet the demands of the changing job market. To do otherwise, he insists, "risks creating an even larger and more permanent underclass within the black population," with only a few blacks making it into mainstream middle-class American society. And for the blacks that do make it, social barriers must be tackled to change what Reid observes is now labeled 'a second-class middle class."

Reid holds the Ph.D. in sociology from the University of Chicago and has published and conducted national conferences on the demography and health of American blacks. Among his academic posts prior to joining the sociology department of Howard University, he was Ware Professor and Chairman of the Sociology Department of Atlanta University, where he also served as editor of *Phylon* and Director of the W.E.B. DuBois Institute for the Study of the American Black. □

Additional copies of Reid's 38-page *Bulletin* (Vol. 37, No. 3) "Black America in the 1980s," can be ordered from PRB's Circulation Dept., P.O. Box 35012, Washington, D.C. 20013 at $3.00 each; 2-10 copies, $2.30 each; 11-50 copies, $1.90 each; 51 or more, $1.50 each. Colored 35mm slides of the *Bulletin's* 20 charts and tables are available at $10 per set. Orders of $20 and under must be prepaid. Add $1.00 for handling on orders mailed inside the U.S. For orders mailed outside the U.S., add 25 percent to the cost of items ordered for postage and handling.

New Worldwatch Papers

Superpowers Vie in Space, Trade Grain on Earth

Space exploration and exploitation, once mainstays of science fiction, have now been around long enough to have their own history and character. In the 25 years since Sputnik I was launched, earth satellites have become an integral part of the world's economy and infrastructure. Interplanetary probes have opened new windows on the Universe, and the "race" to the Moon developed many technological spinoffs, as well as a precision manned-spaceflight capability. And in recent years, the possibility of weapons in orbit has become real.

Indeed, space use so far has had a distinctly military cast, finds David Deudney, writing in the new *Worldwatch Paper 50,* **"Space: The High Frontier in Perspective."** The U.S. and the USSR each spend about three-quarters of their space budgets on military-related purposes.

One side-result of this military concentration may ironically be increased competition in the space business from other countries specializing in nonmilitary uses. The "Space Club" now has no less than six members that have successfully launched their own earth satellites: the U.S., the USSR, the European Space Agency, India, China, and Japan. The new members may prove stiff competition for the U.S. and USSR, writes Deudney, because their projects have been designed to be more cost effective.

Another problem of the space age is now satellite overpopulation: where once there were no artificial objects orbiting the earth, now there are an estimated 10,000 to 15,000 objects – everything from empty fuel tanks to dead satellites. This creates a waste-disposal problem and there could be collisions. And, points out Deudney, "parking spaces" for geosynchronous satellites are running out, as each satellite requires a degree of longitude to itself to avoid radio interference. Already Third World countries are complaining, fearful that the more developed countries will monopolize the limited radio space of space.

Deudney does not see space colonization as technically feasible or a meaningful response to Earth's population and environmental problems. "At a time when 800 million humans live in 'absolute poverty' on earth, it makes little sense to think about building fabulously expensive habitats in space. Simply transporting the world's daily increase of about 200,000 people into space would consume the annual gross national product of the United States. And long before technology made space colonies feasible, the current rate of population growth would have caused earth's life support systems to collapse. More basically, human population growth is not an inevitable natural necessity requiring an ever more expensive technical response. Population stabilization is a difficult social challenge. But it is certainly less complex than the organizational and political skills needed for large-scale colonization of space. Even if feasible, the endless multiplication of human beings in these hive canisters is ultimately as pointless a vision as it is bleak."

Rather, Deudney argues for a more earth-centered approach to space research, concentrating on the kinds of activities most beneficial to the planet on which we live – particularly surveillance of weather, fish schools, etc., and remote sensing of earth's resources. □

What we have here . . . is a situation wherein the two most super superpowers on earth keep several thousand nuclear warheads targeted on each other's territory, while one supplies the other with a tenth or more of its total grain needs.

No one – ideologues least of all – could have predicted it a decade or two ago, but the U.S. and the Soviet Union have fallen, and possibly jumped, into just such a situation. And as Lester R. Brown details it in the latest *Worldwatch Paper* 51, **"U.S. and Soviet Agriculture: The Shifting Balance of Power,"** the "massive new food connection may represent the most important change in relations between the two countries since the Cold War began. It demonstrates in clear economic terms that the United States and the Soviet Union need each other."

Soviet food shortfalls, while traditionally blamed on the weather, are, Brown says, the product of decades of deterioration in Soviet agriculture. Output of virtually all major farm commodities has peaked and begun to decline. U.S. agriculture, by contrast, continues to grow. In 1981 U.S. grain farmers doubled the output of their Soviet counterparts, despite a much smaller cropland area. The U.S. has also come to dominate world grain trade – "its 55 percent share of world grain exports in 1981 easily overshadows Saudi Arabia's 32 percent share of world oil exports."

The result of this discrepancy is the U.S.-Soviet grain trade, which began in earnest in the late 1960s, to offset poor harvests in the USSR's new Virgin Lands program. By the mid-1970s the grain connection had become fairly permanent and predictable, as Soviet harvests began to consistently fall short of plans. While a partial U.S. embargo due to the USSR's Afghanistan invasion put a dent in this trade (largely made up by other exporters), by 1980 the trade had become important enough to U.S. farmers for them to protest bitterly any interruption. President Reagan subsequently promised them that there would be no future embargos, except in the context of some (fairly unlikely) total trade embargo.

"The deterioration of Soviet agriculture presents a timely opportunity to lessen tensions between Washington and Moscow," Brown concludes. "While not ensuring peaceful relations between the two countries, the food connection will make massive arms spending more difficult to justify. The American people may increasingly doubt that a country depending on the United States for so much of its food could be as dangerous as commonly portrayed. Hardliners in the Soviet Union may be unable to convince Kremlin colleagues that the country feeding them is indeed a mortal enemy."

A mordant sidelight: Brown in his study points out that among other negative effects, a nuclear war between the two superpowers would knock out most of North America's exportable grain. Since the U.S. and Canada account for the substantial majority of all grain exports, such a catastrophe would leave over a hundred grain-importing countries scrambling for the remaining surplus grain, produced mainly by Australia and Argentina. Thus, suggests Brown, it is not inconceivable that in a nuclear war in this interdependent world, more people might die of starvation in the Southern Hemisphere than of blast and radiation in the Northern one. □

Copies of Worldwatch Papers 50 and 51 are available from PRB. Single copies are $2.00 each; 2-10 copies, $1.50 each; 11-50 copies $1.25 each; 51 or more, $1.00 each. Orders and checks (made payable to PRB) should be sent to the Population Reference Bureau, PO Box 35012, Washington, DC 20013. (PRB assists Worldwatch Institute in the distribution of its papers.)

Turks Confer on Nation's Environmental Hazards

by Harry E. Cross

On Jan. 11, 1982, the Governor of Ankara, Turkey, took extraordinary emergency measures to protect the local population from dangerous levels of pollution. The measures were in response to thick smog and smoke which enveloped the city, cutting visibility to 20 yards and raising airborne sulfur-dioxide levels to five times the maximum recommended by the World Health Organization. The Governor restricted the use of automobiles, closed schools, banned heating stoves, and advised citizens to stay at home. These dramatic events stemmed from a combination of 20th century developmental problems including oil scarcity, lack of technology, unbalanced growth, and urban massing.

One of the major underlying causes of Turkey's environmental crisis has been its rate of population growth in recent decades. During the last 45 years, Turkey's population has tripled to its present total of 48 million. Continued high birth rates coupled with increasing migration to the cities have caused the nation's urban population to more than double since 1965. This rapid urbanization has outstripped the country's capacity to provide basic infrastructure and social services, particularly in the cities. As a result, 70 percent of the urban areas of Istanbul and Ankara, for example, consist of haphazard shantytowns called *gececondu*, where 3½ million Turks live in unhealthy environments without such basic amenities as potable water, electricity, drainage, or roads.

To better understand these population and environmental problems, the Environmental Problems Foundation of Turkey (EPFT) organized a national conference in June, and

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PRB Publications Chart Latest Population Trends

New from DISC

The Future Racial Composition of the United States, by Leon F. Bouvier and Cary B. Davis. This 67-page report describes the contribution of immigration to U.S. population growth, and projects the nation's future racial and ethnic composition, which is likely to be substantially altered during the next century. ($10.00 each.)

State Population Profiles. These concise summaries contain a state's basic demographic and social data, including detailed 1980 Census and other statewide statistics, arranged by category— fertility, housing, income, etc.—over 100 different items in all. Profiles are prepared separately for each state, for limited distribution, and run six to 10 pages. ($5.00 for each state profile; $2.00 for additional copies of the same state.)

The United States Data Sheet (second edition), prepared by Carl Haub. This attractive three-color wall chart presents a statistical picture of the 50 states. Latest resident populations, vital statistics and economic and social data are all available at a glance, as well as population changes taking place from 1980 to 1981. The new data sheet also shows the surprising state-by-state population changes that have taken place since 1940, when the U.S. contained less than 58 percent of its 1981 population. ($1.00 each; 75¢ each for 2-49 copies; 50¢ each for 50 or more.)

The Impact of Immigration on U.S. Population Size, by Leon F. Bouvier. Immigration—legal and illegal—now accounts for nearly half of present U.S. population growth, and may account for a much greater proportion in the future if U.S. fertility rates remain below replacement level. This paper, one of PRB's occasional papers on population trends and public policy, is probably the most detailed analysis now available on the demographic effects of projected future immigration. ($3.00 each.)

New Population Bulletins

($3.00 each; $2.30 each for 2-10 copies; $1.90 each for 11-50 copies; $1.50 each for 51 or more copies.)

Black America in the 1980s, by John Reid. This newest Bulletin describes the rapidly changing demographic trends of the U.S.'s black population. See the lead story of this issue of INTERCOM.

The Soviet Union: Population Trends and Dilemmas, by Murray Feshbach. The country with the world's third largest population faces serious demographic problems, according to this recent *Population Bulletin* written by Murray Feshbach, who is widely regarded as the leading U.S. authority on the USSR's population. Waning population growth among the ethnic Russians may mean that they cease to be the national majority before the end of the century, while fertility continues high among Central Asian Moslem majorities. Alarming increases in mortality rates, especially among males and infants, have also been noted, apparently due to alcoholism and problems in delivering health care.

The U.S. Population: Where We Are; Where We're Going. The country with the world's fourth largest population is meanwhile undergoing its own demographic changes, with low fertility rates, new immigration trends, significant internal migration, and changing labor force and life styles. This *Population Bulletin* was written by PRB's staff, and also features insightful analyses, by renowned specialists in the population field, of the six demographic "surprises" of the 1970s (from Calvin Beale), and a demographic look ahead in the 1980s (by Beale, Leon Bouvier, Paul Glick, Marilyn McMillen, Martin O'Connell, and Jacob Siegel).

Send order and remittance to Population Reference Bureau, Inc., PO Box 35012, Washington, DC 20013. Make checks payable to Population Reference Bureau. Add $1.00 for postage and handling for orders under $20.00.

wfs update

Carl Haub, a PRB Demographer, prepared this report on the World Fertility Survey. Additional reports on the survey, which will ultimately cover 62 countries, will appear in INTERCOM as results become available.

The Sudan

The Sudan is Africa's largest country, though also one of its more sparsely populated. Most of the population is concentrated in the Central Zone at the confluence of the Blue and White Nile Rivers where the three major cities are located, Khartoum, the capital, Khartoum North, and Omdurman. The Northern Zone, through which the Nile flows northward to Egypt is chiefly desert, while the Southern Zone consists of large swamps, savannahs, and tropical forests.

About 80 percent of this predominately Moslem society is engaged in subsistence agriculture with cotton a major export. The country suffered through a long period of uprisings following independence from Britain in 1957, a situation not settled until the Addis Ababa Accord in 1972. During this period much of the country's health and education facilities were damaged and normal family life impossible.

The Sudan Fertility Survey was conducted in 1978-1979 and its results recently published. The survey itself was conducted in the Northern section of the country, which contains about 80 percent of the population. The sample of 3,114 ever-married women had the following characteristics: about three-fourths lived in rural areas, 80 percent were illiterate, about one-third had worked since marriage, chiefly in agriculture, and only 5 percent had advanced beyond primary schooling.

Female Circumcision Surveyed

The Sudan report is the first WFS survey to give results on a question that asked ever-married women whether they had been circumcised. Although circumcision has been banned for more than 30 years, 96 percent of those Sudanese women surveyed reported being circumcised, most by a traditional midwife. Of these circumcisions, over 79 percent were of the more radical pharaonic type. Some 74 percent of the women were circumcized between the ages of 5 and 9.

A relatively high level of marital stability was observed in the survey, with about 12 percent of the ever-married women having their first marriage ended by divorce and about 6 percent by widowhood. The latter cause is undoubtedly influenced by the unusually large difference in the ages of husbands and wives, husbands averaging 10 years more than their wives. In addition, about 17 percent of the women were in polygamous marriages.

Questions on birth histories in the survey yielded an estimate of a total fertility rate (TFR) of 6.2 lifetime births per woman, but the survey report adjusts this upward to a more likely rate of 6.9; the adjustment is required for inaccuracy of the respondents' replies caused by misdating events and recall difficulties.

When women were asked how many children they considered to be ideal, their average response was 6.4, quite close to the estimated TFR.

Given the rather high fertility levels in the Sudan, low levels of contraceptive use can be expected. About half of Sudanese women have heard of some contraceptive method, according to survey, and only 12 percent had ever used some method. At the time of the survey, 6 percent of the women interviewed were using a method. Only a small proportion of those women were using a modern method.

In general, the Sudan WFS results suggest that the present high fertility in the country is likely to continue and that the traditionally large Sudanese family will be a feature of that country's demography for some time to come.

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invited some of the nation's top scholars and leaders. A recurring theme during the two-day event was that population growth and migration must be managed rationally if Turkey is to have a chance to raise living standards and improve the quality of life in the near future. This message was carried throughout the country through prime-time television coverage, numerous newspaper articles, and the participation of five Ministers, five former Ministers, and various members of the Consultative Assembly.

The highlight of the Conference came in the opening session which featured speeches by the Minister of State, Minister of Health and Social Welfare, and the Minister of Settlement and Reconstruction. Messages of support were read from the Prime Minister, the Speaker of the Consultative Assembly, the Secretary General of the National Security Council, and Turkey's major industrialist, Vehbi Koc. The Minister of State, Nimet Ozdas, was widely quoted in the press when he said that the greatest national problem facing Turkey today is excessive population growth. This active support for the implementation of the national population policy marks the first time since the 1960s that the government has publicly supported population planning programs. ☐

Harry E. Cross is a research scientist at the Battelle Memorial Institute, in Washington, D.C.

world food news

A "Rome Declaration on Hunger," major statements by world leaders, celebrations in more than 130 countries and a special ceremony in Rome marked the second observance of World Food Day on Oct. 16. The Rome Declaration, urging renewed efforts to eliminate hunger by the year 2000, was presented at a special ceremony at FAO headquarters.

"Let us on World Food Day reflect about the appalling paradox that although there is enough food for everyone, there are still about half a billion people who are hungry, ill and dying because basically they are too poor to buy what is available," FAO Director General Edouard Saouma told the assembly. "The food mountains thrust upwards in some countries while hunger and poverty persist in others. The obese seek new cures while the malnourished are not given proven remedies. Domestic pets are pampered while hungry children are neglected. Is this not a strange phenomenon that the historians and economists of a future age will regard as mysterious and inexplicable?"

Saouma warned that if present trends continue, "the number of seriously hungry and undernourished people will climb toward the ¾ billion mark." He stressed that food and agricultural production must be increased by 60 percent by the year 2000 to sustain the increased population.

The Declaration, written by a group of 25 internationally recognized economists and agriculture specialists, said: "By the year 2000 all the world's people and all its children can be fed and nourished. Only a modest expenditure is needed each year—a tiny fraction of total military expenditure which amounts to about $650 billion a year. What is required is the political will to put first things first and to give absolute priority to freedom from hunger. This is the challenge which faces peoples and their governments. We call upon them to meet the challenge and to start now."

"Food Comes First" was the theme of this year's World Food Day observed annually on the anniversary of the founding of FAO in 1945. Across the world, activities this year ranged from addresses by heads of states and high government officials, agricultural demonstrations, field days, seminars, round tables and workshops, to displays and exhibits, competitions and contests, issuance of stamps, coins and posters.

"World Food News" is provided to INTERCOM by the Food and Agriculture Organization of the United Nations.

NAS Study Reports Factors Influencing LDC Fertility

On Nov. 22-23 at the National Academy of Sciences in Washington, the NAS's Panel on Fertility Determinants presented the findings of its three-year study of fertility behavior in developing countries.

The panel, composed of international scholars, examined such topics as delayed marriage, breastfeeding, infant mortality, economic benefits of children, education, and other variables thought to be related to the generally recognized decline in fertility now ongoing in many less developed countries. While no startling new revelations or reversals were uncovered by the study, the consensus at the NAS sessions was that the three-year study had brought into sharper focus the conditions under which various factors have contributed to a reduction of births.

The study found that delayed marriage is often a major factor in the decrease in birth rates. Also for many countries, including Thailand, South Korea, Brazil, and Cuba, large increases in contraceptive use occurred during the last 15 years, according to findings presented at the conference.

The much-vaunted decline in LDC fertility is mostly accounted for by fertility decline in China, it was reported; when China is excluded from the calculations, the LDC fertility decline is much less dramatic. Some speakers emphasized the importance of public health measures which decrease infant and child mortality; only when couples are able to have their desired number of children will they wish to use fertility control methods. Thus public health complements fertility control progress.

PRB Cited as Link to Policymakers

In the concluding session of the meeting, the importance of bridging the gap beween researchers and polcymakers was stressed. One discussant pointed out the need for attractive usable, and brief publications as well as other media for getting population findings across. The PRB was cited as "one of the best examples" of the organizations meeting this need.

The results of the panel's study are being published in a series of reports covering country surveys and summary; for a list of publications from the Panel on Fertility Determinants, contact: National Academy Press, 2101 Constitution Ave. N.W., Washington, D.C. 20418.

In addition, in Spring 1983, Academic Press will publish an extensive collection of the study's results, *Determinants of Fertility in Developing Countries: A Summary of Knowledge.*

Vital Statistics Update

Latest Provisional Statistics for the U.S.: August 1982

	12 months ending with August				
	Number		Rate		
Item	1982	1981	1982	1981	1980
Live births	3,682,000	3,639,000	16.0	15.9	15.7
Deaths	1,973,000	1,995,000	8.5	8.7	8.7
Natural increase	1,709,000	1,644,000	7.5	7.2	7.0
Marriages	2,457,000	2,431,000	10.6	10.6	10.6
Divorces	1,190,000	1,213,000	5.2	5.3	5.2
Infant deaths	41,800	43,400	11.4	11.9	12.8
Population base (in millions)	...	...	230.8	228.6	226.3

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates from the 1980 Census.

Source. Monthly Vital Statistics Report (Vol. 31, No. 8) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Publishers may address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Avenue N.W., Washington, D.C. 20036

POPULATION ANALYSIS IN GEOGRAPHY, by Robert Woods. New York: Longman, 1979. 278 pages, maps, diagrams. $15.95. ISBN 0-582-48696-3.

THEORETICAL POPULATION GEOGRAPHY, by Robert Woods. New York: Longman, 1982. 220 pp, maps, diagrams. $11.95. ISBN 0-582-30029-0.

Population Analysis in Geography attempts to deal with traditional population geography and its relationship with spatial demography. The former has tended to concentrate on the study of population distributions and migrations, while demography has sided with statistical techniques to explain population activity. The author feels that for population studies to be effectively researched, demography must become more spatial, while population geography should be more demographic. The book, however, leans toward the demographic approach. It contains a number of statistical models, which nonmathematically-oriented population geographers may find somewhat cumbersome. Topics such as population distribution are barely treated, while detailed discussions of mortality, fertility and population structure dominate the text.

Woods' book has several strengths that geographers will value. It is clearly and well written. Examples are numerous, and the bibliography is rich with nongeographical citations. Most importantly, this book deals with topics which many geographers have dealt with on a limited basis.

Although it may be suited for introductory level population geography courses, this book may better serve intermediate level students. However, population geography students should, at some time, be exposed to this text.

Woods' newer book, **Theoretical Population Geography,** endeavors to provide geographers with a different perspective on population geography. His first chapter deals with population growth theories, discussing the process of growth and growth cycles, and ending with a critical essay on the views of Malthus and Marx.

The second chapter deals with stationary and stable populations, specifically age-sex structures and demographic reconstruction. The next chapter discusses fertility and mortality, while relating them to economic, agricultural and health cycles, and using Britain as the main sample area. Migration is the topic overviewed in Chapter 4. The individual is first examined, followed by a treatise of group migration behavior. This section is primarily a review of the migration literature, and spatial examples are minimal.

The last chapter deals with what Woods terms geographers' "two grand theories": The demographic transition and historical materialism. Like the preceding chapter, discussion concentrates on literature evaluation, and geographic examples are almost entirely absent.

Theoretical Population Geography fulfills its initial goal of stimulating theory construction at various levels in population geography, but falls somewhat short of the author's second goal. The book does not go far enough in dealing with the spatial perspective. In order to reap the fruits of this book, a background in demographic and geographic concepts is necessary. Nevertheless, it represents an important addition to the geographic literature, and is recommended reading for advanced geography students.

—Leon Yacher

POPULATION POLICY AND THE U.S. CONSTITUTION, by Larry D. Barnett. Hingham, Mass.: Kluwer Boston, Inc. 183 pp. $25.00. ISBN 0-89838-082-0.

"But what U.S. population policy?" is liable to be the first reaction of a reader picking up Larry D. Barnett's book. It is, however, Barnett's thesis that links between population and U.S. law exist aplenty, however their existence may be neglected, as the law, by commission or omission, reflects, contributes to, or frustrates population trends in such important areas as immigration, abortion, equal rights for women, and national population growth itself—as well as in such less heralded areas as laws governing zoning, allotment of school taxes, and even sexual relationships. Barnett's approach is all legal: for example, child-exclusion policies by landlords or home sellers are considered in the light of whether they constitute state action or otherwise infringe on renters' or buyers' rights to privacy. (Barnett concludes that such policies would indeed be found constitutional.)

Barnett's wide-ranging book is a valuable reference giving the U.S. legal history of many different population issues. Its ultimate message seems to be that the Constitution and precedence offer the legal underpinnings for conscious population policies in the U.S., assuming that the political consensus for inaugurating such policies comes to pass.

—Arthur Haupt

THE NAVAJO ATLAS, by James M. Goodman. University of Oklahoma Press, Norman, Ok. 73019, 1982, 109 pp. $22.50. LC 81-40287.

This highly detailed reference work on the Navajo lands of Arizona, New Mexico, and Utah provides a valuable guide to the lands and population of this notable group of native Americans. It contains 48 maps and six sections of text describing the tribe's history, its population, economy, and natural environment. The large tracts of land held by the Navajo and other tribes may become a significant issue as well as an economic opportunity for the Navajo as U.S. energy exploration looks increasingly westward. In addition, there has been recent media attention to the friction between the Navajo and the Hopi. The imprecise Executive Order of 1882 has made a weak attempt to settle land disputes between the Navajo, who need large amounts of land for grazing, and the Hopi who have perfected techniques of dry-land farming. Much of this animosity is unnecessary, as the two groups basically have no quarrel, but the dispute continues to this day.

This book provides a fascinating look at a native American group's continuing search for land they can call their own, over 400 years after the lifestyle of their ancestors was rudely interrupted by Spanish invasions from Mexico under Coronado.

—Carl Haub

WORLD MILITARY AND SOCIAL EXPENDITURES 1982, by Ruth Leger Sivard. World Priorities, Inc., Box 1003, Leesburg, Va. 22075. 44 pp. paperbound. ISSN 0363-4795.

This book is an engrossing summary of what the world's countries spend on arms and other, lesser priority items. While it is an advocacy publication concerned with the arms race, Sivard has assembled an authoritative compendium of what different countries spend on health, education, nutrition, and water, taking pains that the statistics are comparable—for this reason the book makes a worthy addition to anyone's library of population and development materials. The facts that stand out, however, are the military ones: the world's countries now spend an estimated $600 billion yearly on defense; despite (or because of) this, there have been 65 wars since 1960 (itemized by Sivard), which have claimed a total of 10.7 million lives, more than all the deaths in World War I. So much for the peacekeeping effectiveness of superpowers and superweapons.

—Arthur Haupt

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The Shadow of Female Infanticide

by Arthur Haupt

During the fall of 1982, a constant theme recurred in the speeches of Chinese officials: the evil of female infanticide. In his report on China's Five Year Plan, presented to the National People's Congress in December, Premier Zhao Ziyang touched on the subject when he said:

> "Persuasive education must be conducted among the people . . . especially among the peasants, to change radically the feudal attitude of viewing sons as better than daughters, and regarding more sons as a sign of good fortune. We must, in particular, protect infant girls and their mothers. A couple that has only one daughter and brings her up well deserves greater commendation, support, and reward than a couple that has only one son. *The whole society should resolutely condemn the criminal activities of female infanticide and maltreatment of the mothers, and the judicial department should resolutely punish the offenders according to law.* (Italics added)"

In a statement supporting family planning also issued in December, the Communist Party's Central Committee warned against retaining the "old view" that males are better than females. "In some localities today, women are left out in the cold by the whole family if they bear daughters. Some of them are even persecuted. This is impermissible because men and women are equal in our country and women's economic, political, and cultural rights are protected by law. We should understand the truth that the times have changed and now men and women are the same. . . ."

And at a mobilization meeting held in December in Zhejiang Province, a provincial party official reiterated the importance of family planning as a basic national policy, concluding: "It is necessary to promote late marriage and late childbirth and to unswervingly implement the principle of one couple, one child. The idea of regarding men as superior to women must be opposed. *Under no circumstances must anyone be allowed to*

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EDITORIAL STAFF
Editor: Arthur Haupt
Consulting Editors: Mary Barberis, Patricia Cancellier, Elaine Murphy, Jean van der Tak, Robert P. Worrall
Demographic Editor: Mary M. Kent
Book Review Editor: Janice Beattie
Demographic Analysis Consultant: Leon F. Bouvier
Assistant to the Editor, INTERCOM en español: Mena M. Rios
Editorial Assistants: Karen Lombardi, Barbara Wyckoff
Circulation Director: Jacki Majewski

Editorial and Circulation Offices
1337 Connecticut Avenue N.W.
Washington, D.C. 20036
Telephone (202) 785-4664
Cable: POPREF WASHINGTON DC

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	U.S.	All other countries
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Educator—college	15	19.50
Library (public, university, school)	30	39.00
Institution	100	130.00

PRB Visiting Scholar Award Call for '83-'84 Applications

The Andrew W. Mellon Foundation recently approved a three-year extension of its grant to the Population Reference Bureau for Strengthening Resources in Demographic, Policy and Program Analysis.

One of the activities funded by the grant is the Visiting Scholar Program in which mid-career demographers and population specialists are invited to spend an academic year in Washington, D.C. at PRB headquarters. There Visiting Scholars can pursue their own policy-oriented research and education interests while interacting with the Bureau's professional staff.

Visiting Scholars have the opportunity to publish in one or more PRB series and are encouraged to suggest innovations in all areas of the Bureau's program.

Interested individuals are invited to apply by submitting the following to Visiting Scholar Program, Population Reference Bureau, Inc., 1337 Connecticut Avenue, N.W., Washington, D.C. 20036:

- an up-to-date curriculum vitae;
- a description of proposed research or educational activity emphasizing its relevance to policymaking;
- a description of how the results of the proposed activity will be utilized;
- copies of recent relevant publications or manuscripts;
- three letters of recommendation from professional colleagues.

Deadline for application for the 1983-1984 program beginning September 1983 is May 31, 1983. Selection will be made by the PRB Policy Advisory Committee.

The 1983 Visiting Scholar is Dr. Dov Friedlander, Professor of Demography at the Hebrew University of Jerusalem. He is examining interrelationships between socioeconomic characteristics of countries and their patterns of demographic change as revealed by nuptiality, marital fertility, and migration. ☐

HP Microcomputer Joins PRB

The latest staff addition to PRB is a new, "friendly" microcomputer system donated by the Hewlett-Packard Company Foundation.

The computer, an HP-125, will enable PRB to contribute to the supply of microcomputer software tailored for demographic analysis. Such software will be helpful to educators and researchers in the U.S, but is particularly valuable to data analysts in less developed countries, where access to giant "mainframe" computers is limited.

Educational presentations using the graphics capability of this new generation of computers will help students and population program personnel learn the central concepts of demography. Participants will be able to follow population trends graphically on a TV screen connected to the computer and see the effects of different variables on those trends.

PRB is already tied into a computer system located at Georgetown University. But many potential uses for the HP-125 are foreseen, including data storage and interfacing with other computer networks, as the microcomputer becomes an integral component of population-organization activity.

The gift of the HP-125 is the first equipment grant to a population organization by Hewlett-Packard. ☐

How Accurate Was China's 1982 Population Census?

During the summer and early fall of 1982, the Number 1 guessing game among demographers was: What would the total of the China Census (taken July 1) turn out to be? Rumors ranged from 1 billion up to 1.7 billion. On Oct. 27, the answer came; the State Statistical Bureau reported a total mainland population of 1,008,175,288.

The 1982 Census was a major event whose data should help demographers greatly in endeavoring to understand the population dynamics of that giant country. (See INTERCOM, Nov./Dec. 1982.) But in the aftermath of the population tally, the question remains: How accurate was that count?

China demographic specialist John Aird of the U.S. Census Bureau feels that the new census total represents an undercount. Speaking at a seminar last November held by the Population Reference Bureau, Aird gave a summary of the census results and commented on them.

China maintains a universal household registration system, which is supposed to record all births and deaths and keep a roster of all citizens. Aird pointed out that when the armed forces, which are not included in the household registration system and which total (according to the census) 4,238,210, are subtracted from the mainland population total, the resulting civilian subtotal of 1,003,937,078 comes very close to the figures that can be projected on the basis of the registration data.

How close? The projections are only 0.08 percent below the census count. For practical purposes, they can almost be said to coincide. The provincial totals also came quite close to the projected figures. For a country's census count to come out so near to prior projections is remarkable. (Compare, for example, the United States' own 1980 Census, in which projections were some 4 million lower than the census count turned out to be.)

Chinese officials have recently pointed to the coincidence as vindication of the registration system. But Aird observed that there are problems with such a conclusion. The registration system has shown various internal inconsistencies over the years, so that reported rates, for example, often did not jibe with reported population increases. The Chinese themselves have said that the system was not producing accurate data – one reason for the necessity for an accurate census – and recent attempts to fix it have included the issuance of new registration books, the establishment of new registration stations, and a field check of population registers throughout the entire country in 1981-1982. So it seems unlikely, Aird thought, that an independent census would have confirmed previous registration totals.

Besides, the census found that the registration system had seriously underrepresented births and natural increase in 1981. The census counted 3.23 million births in 1981 not included in the registers. The census birth rate was 20.91 per 1,000, compared to 17.6 based on registration. The census natural increase (births minus deaths) was 14.55 per 1,000, compared with a registration rate of "under 12." How was it possible for the registration system to keep track of the size of the population when it could not keep track of the year to year changes?

The explanation for this anomaly seems to be that the census takers were given not only the names of heads of households but also the numbers of persons in each household; but they were not given the numbers of births and deaths previously reported for 1981 and therefore had to obtain the information from scratch.

"In the last analysis," Aird said, "the census seems to have been so closely linked with the registration system that it could not do much to improve on the accuracy of registration data." Hence the real count of the population was that obtained during the checkup of registration carried out in 1981 and the spring of 1982. Not much is known about the methods used in that checkup. Some reports indicate that the checkup found extensive errors in the registration records, but no extensive changes were made in the population totals reported for the end of 1981.

Aird himself believes, as he has in the past, that the margin of undercount in the census is on the order of 5 percent or more. Perhaps as more data from the census are published and future rates and population estimates are made, demographers will be able to ascertain how accurate the 1982 Census really was.

Other results

The sex ratio of 106.23 males per 100 females is somewhat higher than figures announced in 1980 and earlier, when it was reported to range in the area of 105 or so. (A few other Asian countries have sex ratios in this range; most countries tend to have lower ones, e.g., the U.S.'s 94.5 as of 1980.) The higher sex ratio is due mainly to the inclusion of the 4 million

Continued on page 4

Salas on the 1984 Conference

"Attention will . . . be given to those issues of the highest priority, with particular reference to relationships between population and social and economic development, that are essential to the review and appraisal of the [1974] World Population Plan of Action and to its further implementation . . . . It is proposed that two key documents be placed before the Conference. The first will be a report synthesizing findings of the expert groups* and the results of the review and appraisal, and providing the rationale for future action in implementing the . . . Plan of Action . . . . The second document will be draft recommendations for specific action in the future by governments and the international community, within the framework of the overall principles and objectives of the . . . Plan of Action."

— Rafael M. Salas, Executive Director
The UN Fund for Population Activities, describing preparations for the International Conference on Population, to be held in Mexico in August 1984, as a followup to the historic 1974 World Population Conference held in Bucharest.

*The four expert group meetings, being held from November 1982 to April 1983, are covering fertility; migration, population distribution and development; the relationships between population, resources, environment, and development; and mortality.

Nigeria Expels 1 Million Aliens

On Jan. 17 Nigerian President Shehu Shagari ordered the immediate deportation of more than 2 million foreign workers, the majority of them Ghanaians. With only two weeks in which to leave, the foreigners swarmed the docks, airports, and truck stations. Hundreds of thousands, having no money to pay the inflated transportation costs, walked home across the border, carrying what belongings they could.

Nigerian officials cited a depressed economy, dependent on the faltering oil market, increased competition for jobs, high crime rates, and religious and racial unrest as the reasons for the sudden expulsion. Many people, however, believe that the reasons were also political. The death of several students last fall, the result of riots in Nigeria by immigrants from Chad, initiated a series of protests against President Shagari and his eased immigration policies of the past few years. In an attempt to rally the support of the hostile and resentful Nigerians, Shagari, who will be seeking reelection next fall, may have seen the deportation order as a politically popular move.

For those returning to Ghana (population 12.4 million) the journey was particularly long and difficult. The government of Flight Lieutenant Jerry Rawlings did not reopen Ghana's border, which had been closed last September in an attempt to limit smuggling and possible revolutionary activities based in neighboring Togo, until Jan. 29. This delay left approximately 1 million Ghanaians stranded in Nigeria with no money and little to eat. Many lived out on the docks waiting for ships to take them home. When the ships arrived, according to news reports, the results were chaos and death; nine people fell into the sea during the rush onto the freighters. (Thirty others died from exhaustion and hunger after walking for several days to the border.)

The sudden influx of people, three-quarters of them men in their mid-twenties, is likely to have profound effects on Ghana's economy and social structure. With Ghana already facing problems of high inflation, unemployment and hunger, the primary reasons for the initial flight to Nigeria, the 10 percent increase in population can only exacerbate the situation, particularly in the cities. Thus the Rawlings government has ordered the returnees to go home to their villages and farms in the countryside where, with family support, they can be more easily absorbed than in the large cities. Although the majority are returning to their original homes, the question remains how long will they stay there. It will be difficult for many to renounce the fast pace and luxuries of city life, to which they had become accustomed, and to return to a life of farming. Furthermore, it is questionable that families, which were receiving money sent by those working in Nigeria, have the economic capability to sustain the influx.

Ghanaian officials also worry that the new arrivals may import habits of crime and violence learned in the volatile city of Lagos, the Nigerian capital. Rawlings clearly fears that the returned workers may pose a threat to his shaky government, and has ordered increased security measures.

Relief agencies and foreign governments, including the U.S., have come to the aid of the refugees, providing food and medical supplies. Given the deep-rooted economic problems in Ghana, however, more than temporary relief will be necessary. Rawlings must now address the problems not only of a faltering economy, but also of a change in the social fabric of the population. □

Continued from page 3

military personnel, but an apparent recent upsurge in female infanticide due to the imposition of the one-child family on a reluctant population may also be contributing.

The finding that China's urban population is 20.6 percent of the national total is also higher than previous urban figures. The previously reported figure from the 1964 Census had been 14.1 percent, but this figure has now been revised to 18.4 percent, when the 1982 definition of "urban" was applied to that data. The new definition includes urban residents employed in agriculture who were previously counted as rural.

Whatever reservations he has as to the pinpoint accuracy of China's 1982 Census, Aird considers the billion-person count "a monumental achievement," and a major advance in the compilation of Chinese demographic statistics. The census collected many kinds of data not previously available, and did so according to uniform standards. The results will be published in 31 volumes, with unpublished data also to be made available to scholars around the world. (The published results of the 1953 Census totaled two pages.) With its 1982 Census China has made a major commitment to collecting and analyzing national demographic data.

Concluded Aird: "Whatever reservations we may entertain about [the census's] accuracy, those of us who have made a living off the meager tidbits of demographic data from China over many years past look forward to the feast that is to come not only with great eagerness, but [it being November] in the spirit of thanksgiving." □

HHS's Schweiker Steps Down

On Jan. 14, Richard Schweiker, Secretary of Health and Human Services, announced that he would leave his position for a job with a private association. For his replacement, President Reagan nominated Margaret Heckler, a moderate-to-conservative Republican Congresswoman from Massachusetts who had lost her seat in the 1982 elections. Regarding population issues, Heckler had previously announced her opposition to abortion. While in Congress, she had also criticized the parent-notification rule proposed by Schweiker for teens seeking contraceptives from Title X-funded clinics (story on page 5). Whether she will continue her opposition after becoming HHS Secretary (no obstacles are foreseen in confirming her) remains unknown.

In another HHS development, Schweiker on Jan. 10 formally appointed Marjory Mecklenburg to be Deputy Assistant Secretary for Population Affairs (DASPA). (Mecklenburg's status had previously been "acting.") Schweiker also transferred the Division of Family Planning out of the Bureau of Health Care Delivery and Assistance and put it under Mecklenburg's DASPA. DASPA had heretofore been a "staff" position, responsible for administering only the Office of Adolescent Pregnancy Programs. This shift puts DASPA in administrative control of all Title X programs; i.e., federal financial assistance for family planning services, a program that is currently budgeted for $124 million in FY 1983. □

Applying Cost Effectiveness to Family Planning

Third World family planners—like everyone else these days—are concerned about costs. This is in contrast to the 1970s when international funding for family planning in developing countries "proliferated" and the emphasis was on results (reducing birth rates) not costs, say the authors of PRB's *Bulletin* for February, "Third World Family Planning Programs: Measuring the Costs."

Currently, about $1 billion a year is spent on family planning activities in less developed countries—two-thirds from the countries themselves and the rest from international aid. Now both sources are being "pinched" and family planning is having to compete with other important development activities for funding. "The funds that are available need to be used in the most efficient way possible," say the four Johns Hopkins University authors—Ph.D. demography candidate Nancy Yinger, Professor Ismail Sirageldin, and recent Visiting Professor Richard Osborn of the Dept. of Population Dynamics, and Professor David Salkever of the university's Dept. of Health Services Administration.

Their *Bulletin* explains and demonstrates the use of two techniques borrowed from economists to evaluate family planning programs—cost-benefit analysis and cost-effectiveness analysis. The *Bulletin* is based on papers and discussion of experts gathered for a recent four-day workshop organized by the Population Center of Johns Hopkins University, with support from the U.S. Agency for International Development (AID).

Current demographic goals as well as limited funds call for economic justification of Third World family planning programs, say the authors. Continued expansion of such programs is assumed in the latest United Nations "medium variant" projections which see world population growth slowing from 1.7 percent a year at present to 1.5 percent in the year 2000. If population growth in developing countries is to be stabilized eventually and thus in the world as a whole, some 80 percent of women of childbearing age must practice contraception consistently, compared with the current Third World average of 20 percent. Achieving that goal would take an annual expenditure of $64 billion a year by 2000, according to AID specialist Joseph Speidel.

Family Planning's Cost Analysis

The *Bulletin* authors credit cost-benefit analysis with helping to persuade Third World governments in the 1960s of the value of family planning programs. It showed that the benefits of averting a birth (money saved on birth expenses and subsequent education, medical, and food costs for that child) could outweigh the costs (doing without what that child might subsequently contribute to a country's economy). Family planning could be as valuable to a country's development as, for example, a new dam.

With most developing countries now convinced of the value of family planning programs, "more interest is now being directed to cost-effectiveness analysis," say the authors. This is a technique which can show which family planning delivery systems work best for the money spent, as measured, for example, by cost per family planning acceptor, per "couple-year of protection" against the risk of pregnancy, or per birth averted. The costs include staff salaries and expenses, contraceptives, education of and payments to clients, buildings, vehicles, and other equipment, administration, and research and evaluation.

Cost-effectiveness analysis of experimental programs in India, Ghana, and Colombia has shown that costs "per new acceptor" are generally less when family planning services are integrated with health services (for small children or both children and women) than when provided on their own. Similar analysis helped persuade Colombia's Ministry of Health that paramedical "health promoters" could safely be allowed to distribute pills without prescription in rural areas throughout the country. PROFAMILIA, Colombia's private family planning association, learned that it would be most cost-effective to merge the management of its rural and urban community-based contraceptive distribution programs. Brazil learned that it was more cost-effective to locate contraceptive distribution posts in health centers than in community centers or distributors' homes. Cost-effectiveness analysis of an experimental project in Haiti helped set the stage for nationwide, door-to-door distribution of contraceptives by paramedical workers.

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'Squeal Rule' Implemented, Challenged

With only minor modifications, the so-called parental notification "squeal rule" has gone into effect. On Jan. 26, the U.S. Dept. of Health and Human Services published the final regulations regarding provision of contraceptives to teenagers at family planning clinics funded under Title X of the Public Health Service Act. (On Feb. 15, responding to a suit, a U.S. District Court judge in New York granted an injunction barring implementation of the rule in that state; similar suits are pending in other states.)

The regulations require that when prescription drugs or devices (i.e., the pill, IUDs, or diaphragms) are provided to an "unemancipated minor," the clinic must notify a parent or guardian by certified mail within 10 days.

There are two exemptions to the rule: when the clinic determines that physical harm is likely to occur to the minor as a result of the notification, and when prescription drugs are provided for the treatment of sexually transmitted diseases.

The final regulations come a year after HHS Secretary Richard S. Schweiker proposed new regulations, which were a response to a 1981 amendment to Title X encouraging "family participation" in decisions about services. His announcement last February triggered a storm of mostly critical comments. Some 120,000 letters and petitions were received by HHS, which however seemed determined not to make a popularity contest out of the regulation. The final regulations differ only slightly; for instance, only one parent must be notified instead of both, as was originally proposed.

The validity of the final regulations came under immediate legal challenge. The National Family Planning and Reproductive Health Association filed suit in U.S. District Court in Washington, D.C., to prevent HHS from implementing them. The NFPRHA suit was joined with one from the Planned Parenthood Federation of America. The NFPRHA suit maintains that the new regulations violate the intent of Congress, the principle of doctor-patient confidentiality, and the privacy rights of teenagers. A court hearing was scheduled for Feb. 14. ☐

The Census Bureau's Other Censuses

The U.S. Census Bureau is back in the census business. On Dec. 27, it mailed out over 5 million census forms, as it launched the 1982 Economic Censuses and the 1982 Census of Agriculture.

Everyone knows the Bureau takes a census of population every 10 years. Less well known are these two other censuses, though they are major operations, and the 1982 Census of Government, all of which are conducted at five-year intervals. Together with the ongoing Current Population Survey, conducted monthly, and the Annual Housing Survey, these activities take up a large part of the Bureau's time, in addition to its decennial census effort. (Planning for the 1990 Census is already underway.)

The Economic Censuses. These censuses cover manufacturing, mining, retail trade, wholesale trade, service industries and construction industries. Included also are special surveys of transportation and minority-owned and women-owned businesses. This census is not a 100-percent census; "only" some 3 million businesses are canvassed. Data concerning some 5 million additional smaller businesses – mostly those with few or no employees – will be obtained from administrative records of other government agencies.

Besides providing benchmark data for the nation's major economic statistical series, including the Gross National Product, the data obtained in the Economic Censuses constitute the primary source of facts about the structure and functioning of the economy for the private sector.

(It's "Censuses" in the plural, not "Census," because the information collected in each industry is different. Thus, there is the Census of Manufacturers, Census of Mineral Industries, and so forth through construction industries, retail trade, wholesale trade, and service industries.)

The forms were to be returned by Feb. 15, 1983. Results of the censuses will be published by industry classification for the nation as a whole, for each state, and for the counties, cities, and Standard Metropolitan Statistical Areas (SMSAs).

The Census of Agriculture. This census covers all U.S. farm and ranch operations – some 2½ million – which yielded $1,000 or more in the sale of agricultural products during 1982.

This census is the only source of uniform comprehensive data on agricultural production, inventories, sales, expenditures, and other characteristics provided on a consistent county-by-county basis. About 80 percent of the producers receive a four-page report form requesting information about basic agricultural items (land in farms, form of ownership, production and sales); the remaining 20 percent receive a five-page form containing, in addition, more detailed questions (about land and buildings, inventory, pesticide use, etc.). Forms are due in Feb. 15, 1983.

(As in the decennial census, respondents to these censuses are required by law to answer the census questions. The confidentiality of their answers is likewise guaranteed by law, and the data are used for statistical purposes only.)

The 1982 Census of Governments. This institutional survey started in late 1981 and its final phase of canvassing will not be complete until sometime in 1983. It gathers organizational, financial, employment, and tax data from the U.S.'s 82,688 governmental units; i.e., the federal and state governments, and every local and governmental entity – counties, municipalities, townships, school districts, and some 28,733 special districts (drainage, flood control authorities, etc., etc.). ☐

FDA Panel Reevaluates Depo

On Jan. 10, 1983, the U.S. Food and Drug Administration reopened the Depo-Provera case, as a Public Board of Inquiry convened five days of hearings to consider the question of whether the drug should be used as an injectable contraceptive.

Depo-Provera has significant advantages as a contraceptive; only one injection is required every three months; effectiveness is unsurpassed. Side effects can be similar to those of oral contraceptives.

It has been available as a contraceptive since 1967 and is presently used by some 2 million women in 80 countries – but not in the U.S. In 1978, after several years' hesitation because of ambiguous cancer results in animal studies, the U.S. Food and Drug Administration decided not to approve Depo as a contraceptive. The FDA's Public Board of Inquiry, requested by the Upjohn Company, Depo's manufacturer, is a rarely invoked reevaluation procedure established by FDA, in which a panel of outside experts hear evidence on a drug and give an advisory opinion. (The only other panel to be convened concluded that the sweetener Aspartame should not be approved, but the FDA Commissioner Arthur Hays approved it anyway.)

Witnesses pro and con testified during the week of hearings. The Pros were mainly Upjohn, the World Health Organization, the U.S. Agency for International Development, the International Planned Parenthood Federation, and the American College of Obstetricians and Gynecologists.

The Cons included the FDA itself, the National Women's Health Network, and the Health Research Group (a Ralph Nader organization).

The witnesses' testimony ranged around the animal studies, in which beagle dogs developed breast cancer and rhesus monkeys developed endometrial cancer. (See INTERCOM, February 1982.)

The Upjohn Company, which itself ran the studies, presented witnesses downgrading the studies' validity and their significance for humans. Some "con" witnesses also admitted the animal studies had major shortcomings, but nonetheless found the incidence of cancer troubling and significant.

Testimony also centered on studies of women using Depo-Provera. Even though the drug has been in use since 1967 with 10 million total users, no comprehensive study exists, a fact that one witness, Robert N. Hoover from the National Cancer Institute, called "outrageous." The World Health Organization is conducting an ongoing study of women in Thailand, that when complete, may fill the need for such a test.

Some attending the hearings reported being impressed by the fairmindedness and openness with which they were carried out. That there was wide interest in the entire inquiry was apparent from the size and variety of the audience in the hearing room – a crowd of drug company executives, women's rights representatives, population-group observers, and journalists.

Continued on next page

Experts Confer on Taiwan's Population Growth

On Jan. 6 through 8, the Government of Taiwan, Republic of China, held an International Conference on Population and Family Planning to consider the reasons why Taiwan's fertility, which declined rapidly in the 1960s and early 1970s, has now apparently plateaued. Participating were nearly 200 representatives of development ministries in Taiwan and experts in contraceptive technology, policy, population education, and family-planning program development from 7 countries. Participants exchanged their experiences in current family and population planning approaches underway in many parts of the world and their possible application in Taiwan.

Like Korea and Singapore, Taiwan is an Asian country that has developed rapidly in the past decade. Like them, its family planning program has been successful in lowering fertility and growth rates. Its population as of mid-1982 was 18.5 million, with birth and death rates of 23 and 5, a 1.8 percent rate of natural increase, and a total fertility rate of 2.7 that is very low by developing country standards.

Nonetheless, Taiwan's population continues to grow, such that its present population density is about 1,360 per square mile, and its population would double, if present rates continued, in 38 years. Concerned about the country's population trends, the Taiwan government in 1964 began officially promoting family planning programs. The latest Ten-Year Economic Development Plan calls for the growth rate to be brought down to 1.25 percent by 1989, though it's acknowledged that such a low rate would be quite difficult to achieve that soon.

What has happened is that the decline in Taiwan's fertility has leveled out. In some ways its family planning program is very successful; some 70 percent of couples in the childbearing years practice contraception.

Research suggests that couples are indeed having the number of children they want. This number, however, is more than two—in fact, about 32 percent of births are presently third- or higher-order births (another 8 percent are births to teenagers).

"Although contraceptive services need some improvement, the key to future fertility decline seems to depend more on how many children a family will have and how long is the space between childbirths," T.C. Hsu, Director General of Taiwan's Dept. of Health told the conference. "If all families continue to have more than three children, the population growth rate would not decrease further. The only way of achieving our population growth goal is to have only two children per family. This should be made clear to people and they should be educated to understand the fact that childbearing is no longer only a family affair but is closely related to the development of the society. Everyone should be responsible for the results of their fertility behavior."

Among the participants at the International Conference on Population and Family Planning were (left to right) Taiwan's Premier Sun Yun-suan; population consultant Sam Keeny, formerly the Population Council Represenative for East Asia; and PRB's President Robert P. Worrall. Both Worrall and Elaine Murphy, PRB's Director of Population Education, made presentations at the Taipei-based conference.

Continued from preceding page

Besides the point-by-point discussion of the drug's merits and demerits, more general questions seemed to be hanging in the air. Does Depo-Provera have great sales potential? Is FDA approval important for increased foreign distribution of the drug; i.e., are less developed countries waiting for an official U.S. testimonial as to the drug's safety? Is Depo itself, being a three-month injectable contraceptive, really an advance over other forms of contraception, so that it would aid different countries' family planning programs? From the attentiveness displayed in the week of hearings, it is evident that many people think the answer to all these questions is yes.

The Board of Inquiry is chaired by Dr. Judith Weisz of the Milton S. Hersey Medical Center, of Pennsylvania State University; Dr. Griff T. Ross, of the University of Texas Medical School; and Dr. Paul Stolley of the University of Pennsylvania School of Medicine. It is now receiving post-hearing documentation from witnesses. Sometime in the spring, the Board will make its recommendation to FDA Commissioner Hays. ☐

1982 Immigration Bill Dead

The Simpson-Mazzoli immigration bill died in the U.S. House of Representatives last December. The bill, which had evolved during 1982 as the consensus response to the U.S.'s mounting illegal immigration, would have given permanent-resident status to those undocumented aliens who entered the country before 1977. It would also have provided sanctions against employers who knowingly hired undocumented aliens.

The Senate version of the bill had passed the Senate in August, by 80 to 19. But on the House side, consensus unraveled, as interest groups objected to different provisions. Agribusiness interests objected to amnesty, and favored a guest worker program. Some Hispanic groups were concerned that employer sanctions might result in discrimination against Hispanic job applicants. In the face of these obstacles and the press of other "must" legislation, House leaders dropped as futile further efforts to pass the immigration bill in 1982.

On Feb. 17, 1983, a new Simpson Mazzoli bill, essentially the same as last year's, was reintroduced in the House and the Immigration Subcommittee was to begin hearings on it. ☐

demographer's page

Dov Friedlander is a professor in the dept. of demography at the Hebrew University of Jerusalem; he is currently at the Population Reference Bureau as PRB's 1982-1983 Andrew W. Mellon Foundation Visiting Scholar.

Ruth Klinov Malul is a professor in the dept. of economics at the Hebrew University of Jerusalem.

The Aging Society And Economic Burden

By Dov Friedlander and Ruth Klinov Malul

A population "ages" when the proportion of adults and the elderly increases. Historically, populations have tended to be relatively "youthful," with typical proportions being, for example:

Age group (yrs.)	Percent of pop.
0-14	33
15-64	62
65 +	5

In the more recent past, however, the population structure of many more developed countries has aged, with proportions like the following:

Age group (yrs.)	Percent of pop.
0-14	24
15-64	63
65 +	13

It is well known that this aging process has mainly been the result of the fertility transition from the relatively large family (about 4 to 5 average total births per woman) down to the small family (about 2 to 2.5 births). In the last decade or so, fertility levels in many more developed countries have declined to below-replacement levels, which will eventually lead to even further population aging. These aging processes cause concern among policymakers because they have socio-economic implications; in particular, the claimed imposition of heavy economic burden upon the working members of that population.

Two Kinds of Aging Must Be Clearly Distinguished

In the past, aging was chiefly a consequence of declining fertility which reduced the proportion of young people in the population. Mortality declines had little effect on the age structure; indeed, if declining mortality had any effect on age structures, it was to produce higher proportions of the younger age groups (because infant and child mortality rates declined more rapidly). But now a new mortality-decline effect may be becoming evident: When a population reaches a life expectancy of 70 years or so, further increases in life expectancy tend to have an aging effect on the population.[1] This is because at such high levels of life expectancy the probability of surviving at the relatively younger ages is close to 100 percent. Hence any further mortality declines must necessarily be concentrated in the more advanced ages, leading to aging of the population as well as an increase in the growth rate (because mortality has declined, while fertility has remained at the same level).

In short, two kinds of population aging exist, and should be clearly distinguished when considering future demographic trends: That which results from declining fertility, and that which results from increased longevity.

Aging and Economic Burden

An increase in a society's economic burden may be defined as a reduction in the value of that society's lifetime per capita consumption Accordingly, the effects of population age-structure changes (one aspect of which is aging) and of population growth on economic burden can be analyzed.

An increase in the proportions of the population in the dependent age groups (aged 0-14 and 65 and over) is associated with an increase in economic burden. A decrease in the proportion of those in the working ages (aged 15-64) likewise results in an increase in economic burden, and is really another way of expressing the same thing.

Economic burden also increases with any rise in the population growth rate. This is because the investments required for the "additional population" could otherwise be diverted to consumption. Hence, other things being equal, the larger the growth rate of a population the lower its level of consumption, implying an increase in economic burden.

When fertility declines, it has an effect on both the proportion of those in the working ages and the population growth rate, which in turn affect the economic burden. Similarly, when life expectancy increases, it has an effect on the two demographic factors, and hence on the economic burden.

Thus, economic burden is interrelated with the two kinds of population aging. These interrelationships can be illustrated through a numerical example using an initial "stable population"* model on which processes of declining fertility or increasing longevity have been imposed.

The graphs in Figure 1 show the effect of a decline in the total fertility rate (TFR) from 2.6 to 1.65 births per woman (not an unrealistic decline among the more developed countries) on aging (the percentage of people aged 65 and over); on the percentage of people 15-64 years (i.e., working ages) in the population; and on the rate of population growth (life expectancy remains unchanged, at 72.5 years). The graphs in Figure 2 shows the changes in these same demographic

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*The initial stable population is presumed to have a total fertility rate of 2.6 children per woman and a life expectancy at birth of 72.5 years.

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Changes in Aging, in the Percentage Population in Working Ages, and in the Rate of Population Growth Associated with:

FIGURE 1
Declines in the
TOTAL FERTILITY RATE
(life expectancy remaining constant)

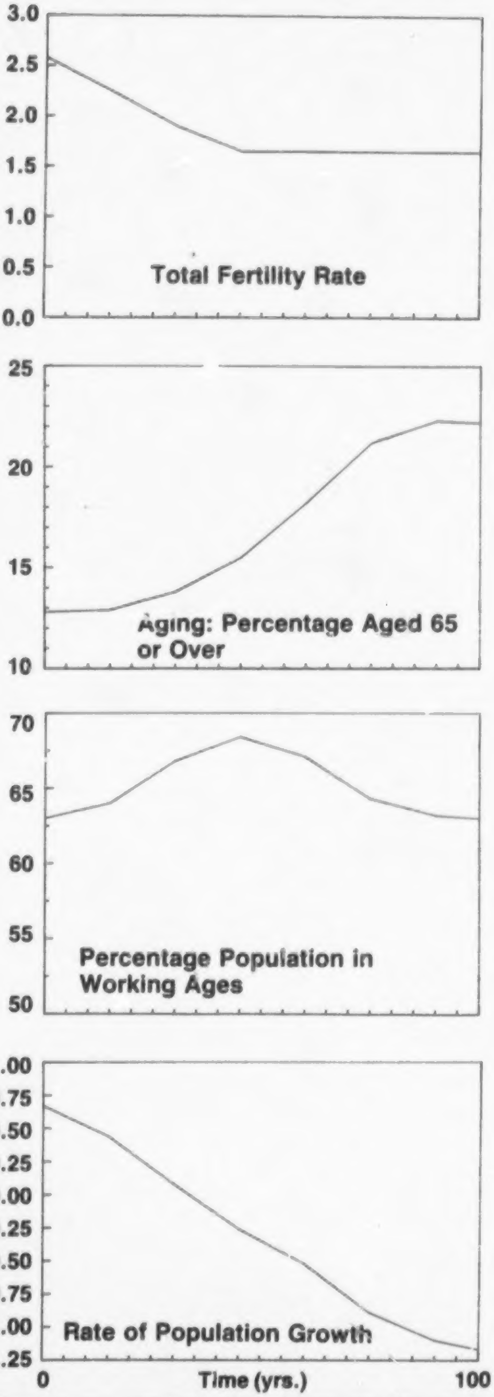
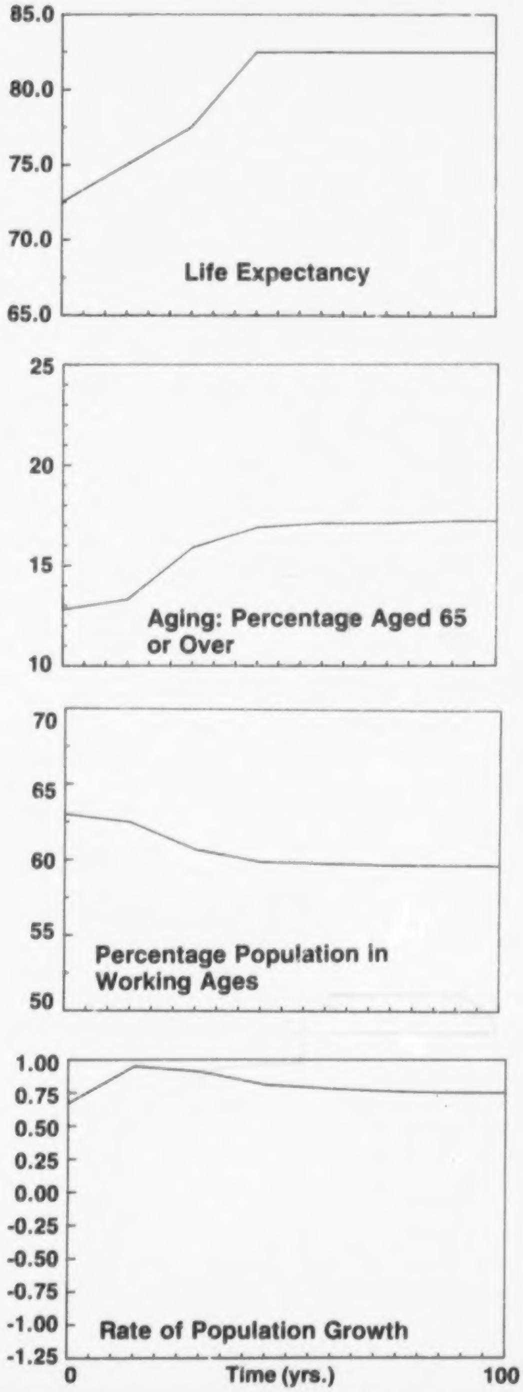


FIGURE 2
Increases in
LIFE EXPECTANCY
(fertility remaining constant at 2.6 TFR)



demographer's page

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aspects when a population's life expectancy rises from 72.5 years to 82.5 years (not a farfetched improvement in the future), while the TFR remains at the same 2.6 births per woman.

As can be seen, both these populations age. However, the declining-fertility population of Figure 1 also shows an *increase* in the percentage in the working ages, at least in the short run, and a considerable decline in the population growth rate. These two changes are associated with a decline in economic burden, that is, an increase in per capita consumption.

In the increasing-longevity population (Figure 2), there is also an aging effect, though less pronounced. Here, however, the proportion of those in the working ages indeed does decline, while the population growth rate increases. Hence these demographic changes are associated with an increase in economic burden.

Although these conclusions on the economic burden that is associated with the two kinds of aging have been illustrated here through a particular example, they can be shown to be valid under fairly general conditions.[2,3]

Summary and Conclusions

Population aging trends obviously have important public policy implications (e.g., Social Security) and predicting their course is clearly desirable. However, the two kinds of aging described above differ also with respect to their predictability.

Information on current changes in fertility and their expected effects on future aging (assuming no change in longevity) is at least partial (if not complete). Hence, appropriate measures can be taken currently in terms of saving and investment to take care of future needs associated with this kind of aging. Future changes in life expectancy, on the other hand, are considerably less predictable, and knowledge about them much more limited. Hence, such unexpected rises in life expectancy are likely to entail unexpected transfers of funding from the working population to the aged population (again, e.g., Social Security).

In other words, when aging results from increased longevity, not only is there an increase in economic burden from a societal point of view; there is additionally the problem of this aging's unpredictability, and a lack of information as to the additional saving required by individuals for their retired life.

Aging of population has become a major problem in most advanced countries. Problems associated with the financing of retirement age consumption will worsen with the increase in the proportions of the aged. The resources needed to maintain an appropriate standard of consumption for the aged must be financed by society. Therefore, any generation whose savings during working life were insufficient to take care of its old age consumption will have to be supported by the younger generations, implying sizable intergenerational funding transfers. Thus it is important that at any period of time, current savings are adequate for the retirement years consumption of the aged. One implication of this Demographer's Page is that such required savings (whether made privately or through a Social Security-type system) *may* be reduced with a decline in fertility, but *must* be increased with any addition of years to life expectancy. ☐

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2. Coale, A.J., and Hoover, E. *Population Growth and Economic Development in Low Income Countries: A Case Study of India's Prospects.* Princeton, N.J.: Princeton University Press, 1958.
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Conference Recommends Nigerian Population Policy

Nigeria presently has a population of about 83 million, which is growing at a rate of about 3.2 percent a year. Based on World Bank projections, its population could exceed 400 million by 2055. Nonetheless, the government, while acknowledging that rapid growth hinders the achievement of some of the country's social and economic development objectives, has not yet adopted a policy in support of fertility decline.

Last year, the Nigerian Institute for Social and Economic Research (NISER) conducted a national symposium on population and development policy issues in Nigeria. This was one of a dozen such symposia held in less developed countries during 1982, with funding provided by the U.S. Agency for International Development as part of the Battelle Population and Development Policy program.

At the NISER symposium, held July 25-28 at the University of Ibadan, some 70 participants discussed 10 papers addressing population growth and change in Nigeria as related to the nation's educational and health planning, housing, urbanization, environmental impact, and costs. The participants included federal and state officials, academicians, and NISER staff. At the final session, they made a number of policy-related recommendations for a national family planning policy.

NISER is now publishing the proceedings of this symposium. Among the final recommendations: That the government provide positive encouragement to family planning, including assistance to organizations providing family planning services; strengthen health and education programs, as these contribute to a desire for smaller families; acknowledge the importance of incorporating demographic factors into development plans, since rapid population growth can affect these plans so greatly; and commit more resources to the accurate collection and analysis of demographic data, including the establishment of an effective vital registration system. ☐

This article was prepared by the Battelle Human Affairs Research Centers, in Washington, D.C.

The Challenge of Surveying Nomads on the Move

by Anne R. Cross and William D. Kalsbeek

Although nomads comprise an infinitesimal proportion of the total world's population, they form large and sometimes economically important sectors in certain countries. Development planning in these countries is partially dependent on a more thorough understanding of their nomadic populations; however, social science research among nomads has been hampered by methodological difficulties in obtaining scientifically valid samples of nomads to study. Problems such as over- or underenumeration and sampling bias, which are more easily controlled in sample surveys of settled populations, are greatly magnified when the unit of study is periodically moving from place to place. This article describes one method of sampling and interviewing nomads that was used in a demographic survey in Somalia.

In 1980-1981 the POPLAB project at the University of North Carolina assisted the Somali government in carrying out a demographic sample survey in the capital city of Mogadishu and two agricultural regions nearby in the southern part of the country. The survey, which was funded by the U.S. Agency for International Development, gathered data about fertility, mortality, and migration, as well as background characteristics such as age, sex, literacy, and marital status. Although the bulk of the survey was aimed at interviewing the settled population, a smaller scale survey of nomads was also mounted.

The East African nation of Somalia is one of the poorest countries in the world. Roughly the size of Texas and shaped like the number seven, it occupies the easternmost tip of the continent, the "Horn of Africa." Most of the land receives less than 20 inches of rainfall annually and since irrigation from the two permanent rivers is minimal, only about 1 percent of Somalia's land area is currently under cultivation. Given such harsh living conditions, it is little wonder than an estimated 50-60 percent of the roughly 4.5 million population are nomads who migrate in regular patterns across the arid scrubland with their camels, cattle, sheep, and goats.

Review of Sampling Approaches

The most fundamental problem in conducting a survey of nomads is to compile a representative list of population members from which the sample is selected. Even if a list of all nomads or nomadic households could be prepared, it would be difficult to locate the sampled people because of their migratory habits. Several approaches have been developed to circumvent such problems:*

1. *Group assembly approach.* Local officials "round up" all nomads that happen to be in their districts at the time of the survey. This method requires strong administrative authority, without which underenumeration may be substantial.
2. *Camp approach.* Nomads are interviewed at the camps where they reside temporarily. The main problem with this method is ensuring a complete and up-to-date listing of camps and their locations.
3. *Tribal approach.* Nomads are identified through the hierarchical tribal arrangement which functions as a sampling frame. Small tribal subdivisions can be selected for the sample and can then be located with the help of tribal leaders. Although this approach has been widely used in African countries, it is not feasible in those countries (including Somalia) in which the governments seek to deemphasize tribal authority.
4. *Waterpoint approach.* Nomads are associated with the waterpoints to which they bring their animals for watering. Since it was the approach that was adopted for the 1981 Demographic Survey, it will be described in greater detail.

Photo by Anne Cross

At a Somali waterhole, a nomad answers Demographic Survey questions. The response rate in this survey was almost 99 percent.

Survey Design

The assumption behind the waterpoint approach is that, during the dry season, when nomads are dependent on waterpoints for watering their animals, each nomadic household can be associated with one and only one waterpoint at any given point in time. The probability that a particular nomadic household will actually appear at the waterpoint at that time is partially dependent upon the frequency with which the household waters its animals, which in turn is related to the type of animals it owns. Findings from the Demographic Survey indicate that during the dry season in Somalia, on average, cattle need to be watered every two days, sheep and goats (which are herded together) require watering roughly every three days and camels need to be watered every seven days. The way that these watering intervals are used in the design of surveys can best be explained by examples.

In the 1975 Census of Population in Somalia, in which the aim was to enumerate all nomads only once, interviewers were stationed at each waterpoint for a period equal to or exceeding the *longest* watering interval, (i.e., that of camels), on the theory that every nomadic household must bring its animals for watering at least once during that period. Those households visiting waterholes more than once (i.e., those with cattle, sheep and goats) must be screened out on their second visit to avoid double-counting. This was accomplished by instructing interviewers to enumerate all nomadic households at the waterpoint during the first two days of the survey period, after which households bringing cattle were excluded. After the third day, all households bringing sheep and goats were excluded and only those with camels were in-

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*For a fuller discussion, see United Nations, *Study on Special Techniques for Enumerating Nomads in African Census and Surveys*, Economic Commission for Africa, Addis Ababa, June, 1977, E/CN. 14/CAS. 10/16.

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terviewed. This is a statistically selective design; not all households are interviewed but each household is given an equal probability of being interviewed.

Because this approach results in a considerable amount of interviewer "down" time (toward the end of the interviewing period, enumerators are screening out the majority of the potential respondents), an alternative design was used in the Demographic Survey. The base interviewing period was only one day and the watering intervals were used as weighting factors. All nomadic households bringing animals to water were interviewed; during data processing, the records for households with cattle were assigned a weight of two, those with sheep and goats, a weight of three and those with camels, a weight of seven. This design resulted in more efficient use of interviewer time as well as a larger sample size since no respondents were excluded from interviewing.

A further complication of the study design is the fact that many nomadic households own more than one type of animal which they herd separately. Often the family splits into two parts, the young men taking the camels in search of pasture, leaving the women and children to tend the goats and cattle. Obviously this custom introduces the possibility of double-counting the household.

Two approaches to this problem of split households were considered. One, which was used in the Census, was to link the household to the person in charge of the most frequently watered animals. Thus, a nomad who brought camels to a selected waterpoint would be asked if his household also owned cattle, sheep or goats and if so, he would not be interviewed on the assumption that he would be counted if the other branch of his household were interviewed. The Demographic Survey, however, was not selective in that way; all households were interviewed, without screening out the ones that might be split. The possibility of double-counting was taken into account afterward by weighting the computerized records of the households surveyed according to the number of branches into which the household was split and the types of animals herded by each one.

Survey Implementation

The first step in implementing the Demographic Survey was to prepare a list of waterpoints. Consultations with local nomadic leaders resulted in an inventory of 281 waterpoints together with information on their location, type, and the average number of nomadic households using each waterpoint per day. After stratification by size, a random sample of 60 waterpoints was selected.

Fieldwork was conducted by 12 interviewers, three supervisors, and the senior field coordinator, who were organized into three teams, each with a Land-Rover and driver. Each team was assigned certain waterpoints to cover, and because nomads water their animals both late at night and early in the morning, the teams were equipped with tents, bedding, and food so they could camp out next to the waterpoints for the full 24-hour interviewing period. Interviewers took turns covering the waterpoint and returning to camp to eat and rest. Despite the nomads' reputation for being suspicious of outsiders, gaining their cooperation was not difficult, and the survey response rate was almost 99 percent.

Unfortunately the survey suffered seriously from weather problems. Interviewing began at the end of a severe drought and initially there was concern that a large proportion of waterpoints would be dry. However, after about 10 days of interviewing, the long rains started, more than a month earlier than expected. Rain hampered interviewing in three ways: nomads were not dependent on the waterholes since rainwater collected in gullies; some waterpoints were inaccessible to the interviewing teams because of muddy roads; and even areas not yet hit by the rains were evacuated by nomads migrating toward the rain and greener pastures.

Thus, of the 60 waterpoints selected in the sample, only 29 produced interviews and instead of the target sample of 1,000 households the survey produced only 432 interviews. The point to be learned is that weather becomes vitally important when using the waterhole approach–while rain or drought can hinder fieldwork among settled population, either one can virtually destroy a survey of nomads.

Although such problems create less of a sense of control than survey researchers might feel with studies of settled peoples, the Demographic Survey produced some interesting new information about Somali nomads. More importantly, perhaps, it provided a field test of statistical procedures for surveying an important and understudied segment of the nation's population. ☐

The authors, who were with POPLAB, participated in the Somali demographic survey described in this article. Anne R. Cross is now a demographer with Westinghouse Health Systems; William D. Kalsbeek is now on the faculty of the Dept. of Biostatistics, School of Public Health, at the University of North Carolina.

New from PRB

Immigration: Questions and Answers, by Elaine M. Murphy and Patricia Cancellier. A 14-page booklet that describes the major U.S. immigration trends and issues. The reading uses a question-and-answer format which makes it easy for the reader to quickly find an answer to "What have been the past patterns of immigration to the U.S.?" and "Where do most illegal immigrants come from?" The booklet contains many charts and graphs, a bibliography and a glossary of terms. A teacher's guide is available at no charge with an order of the booklet. ($1.00 each; two or more, 75¢ each.)

World Population: Toward the Next Century, by Elaine M. Murphy. A 20-page teaching module on world population trends. The module contains a seven-page reading, the *World Population Data Sheet* reprinted on four pages to make it easier for use by students, and four pages of exercises and activities. ($1.00 each; two or more, 75¢ each.)

INTERCOM en Español. Spanish INTERCOM has resumed publication after a one-year hiatus, with a 12-page look at population news every month, based on the English edition of INTERCOM, but with additional material concentrating on Latin America. *INTERCOM en Español* is distributed free in Latin America to opinion leaders, policymakers and professionals in the population field. A limited number of copies are also available for distribution elsewhere in the world. Contact PRB for further information.

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drown a female baby or maltreat a woman who has given birth to a female baby. (Italics added)"

In short, seemingly every major recent statement by a Chinese official that has touched on family planning seems to have been accompanied by a warning against female infanticide and maltreatment of mothers who bear female children. In addition, there have been anecdotal reports of women in China, as well as in other countries, using amniocentesis to find out the sex of their unborn child, and, if it is found to be female, aborting it (see following story).

Partial Answers

No statistics are available on Chinese infanticide. The only "evidence" is the pattern of official statements and the occasional anecdotal report.

For example, the *China Youth Daily* reports receiving "many letters . . . reporting on cases of abandoned baby girls that occurred in some localities. The innocent babies were left at crossroads or streetcorners, and, in some isolated cases, were drowned." It went on to condemn the practice utterly, urging, like Zhao, that "those who have committed crimes by murdering their babies must be punished according to law."

The same periodical says that "serious imbalance characterized by a ratio of 3:2 between male and female babies that have been born and survived in the past two years has occurred in some communes." Visitors to maternity wards have occasionally reported finding disparities between the numbers of males and females. But these reports are all anecdotal.

Son preference and the practice of female infanticide have had a long and unpleasant history in many countries besides China, due to the belief in traditional societies in the "superiority" of males and males' value as an economic asset, rather than a liability. (Men do not come with compensatory dowries, after all.) Males are considered not only helpmates but old-age insurance, an important consideration in agricultural societies without any form of governmental "safety net" whatsoever. Female infanticide became not only tolerated, but a cultural norm. And in many cases, the moral repulsion of actually killing an infant is "eased" by resorting to less direct methods of discrimination: abandonment, exposure; or simply lavishing more care and nutrition on the male children and giving the females short shrift.

All governments condemn infanticide, and most promote (to different extents) emancipation and equality for women; e.g., the Chinese slogan that "women hold up half the sky." Even in the 20th century, the century of (among other things) big government, central governments' ability to change cultural customs is limited. Rather, the hope is that discrimination against female babies (and women in general) will lessen as the societies become more modern, industrialized, socially progressive, and educated, and as the birth rate falls.

Infanticide and the One-Child Family

But in China, progressive family planning may be colliding with the traditional son preference. Strong incentives are provided to encourage couples to limit their children to one child, including monthly stipends, special priority housing, a 5 percent supplementary pension, highest priority for school admission and future job assignment for the child. Couples are encouraged to obtain a "one-child glory certificate," a contract that entitles the family to these benefits, and penalizes the parents should they have more than one child later on. (If the contract is broken, the privileges must be paid back to the state.)

So a couple in China is, practically speaking, left with one sensible option: having one child. The question is, How are they going to feel if that child turns out to be a girl? They can no longer look forward to having a boy later on. Are they going to be convinced by their government that their son preference attitude is "feudal," that the social system will take care of them, that a family with only one child is blessed, and one with a girl even more so?

Undoubtedly, part of the government's campaign to encourage the public to accept the one-child, and even one-daughter family is based on humanitarian and socially progressive principles, as well as concern about the country's still significant population growth—1.2 million people every month. If there indeed has been a resurgence in female infanticide and discrimination against females, it could be construed as a reaction to the one-child family policy. By leading the hue and cry against infanticide, the government may also be trying to prevent the conclusion being drawn that the government's own policies may have unwittingly contributed to it.

The Bottom Line

About 105 or 106 males are born for every 100 females, but thereafter the sex ratio (number of males for every 100 females in a population) varies for different countries because of different patterns of mortality and migratin for the two sexes. In the more developed countries, females have typically had lower mortality than males at all ages, and consequently are the majority (e.g., the U.S.'s sex ratio of 94.5 males per 100 females as of 1980). This is also true in nearly all less developed countries (e.g., Bolivia's ratio of 1976 was 97.3). But a few less developed countries in Asia have a ratio over 100, that's to say, more men than women. Examples include Iraq's sex ratio of 106.2, as of 1977, and Pakistan's very high sex ratio of 112.9 as of 1972. The sex ratios of China and India are around 106.

China's ratio of 106.2 as of the 1982 census was up from 105.1 reported for 1979. Detailed census data to be published in the next two years should show whether or not this apparently increased shortage of females is concentrated at the youngest ages.

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William Butz was appointed Jan. 3, 1983 to be Associate Director for Demographic Fields of the U.S. Census Bureau.

He had been with the Rand Corporation since 1970, where he was Senior Economist and Deputy Director of Labor Force and Population Studies. His most recent demographic research included studies of economic influences on recent U.S. fertility trends and nutrition and birthspacing in Guatemala and Malaysia.

PAA members will remember his contribution to a memorable panel at the Denver meeting in 1980 when Richard Easterlin and Charles Westoff debated "Which Way Will Fertility Go in the 1980s."

Butz, who happens to be the son of former Secretary of Agriculture Earl Butz, received his undergraduate degree at Indiana University and did postgraduate studies in economics at the University of Chicago. As Associate Director for Demographic Fields, the federal government's key demographic specialist, he will oversee the Office of Population, the Current Population Surveys, and the Decennial Census (plans for 1990 are already underway).

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Commentators occasionally warn of great potential social harm, if sex selection becomes a practical possibility and societies act on their preferences for children of one sex or the other. But the issue should be kept in perspective. During the 19th century in India, there were horrendous instances of female infanticide: e.g., the widely known case of Hjarejas, in western India (cited in Petersen's *Population* textbook), who in 1817 were found to have a sex ratio of 235.8 males per 100 females. But in modern times, it is not likely that any plausible level of infanticide or other form of sex selection is likely to have anything like the effect on a society's sex ratio that migration often does. In the developing world, the movement of males (or females) from country to city in search of jobs often leads to a significant sex-ratio discrepancy in both places. Yet the societies survive.

In the 1950s, Philip Wylie wrote a novel called *The Disappearance,* about the entire female population suddenly vanishing in supernatural fashion off the face of the earth. Talk about sex selection sometimes sounds like that speculative novel. But Wylie was trying to make a point: how the two sexes depend on each other.

And while there are forces, like male preference (and occasionally female preference, such as is found in the Philippines), that might tend to drive up the sex ratio, especially when abetted by possible new technologies, it's worth remembering that there are also forces that tend to push the sex ratio back toward the middle, where it has more or less remained during recorded history. ☐

Amniocentesis for Sex Selection

1. The Method

Until a few years ago, there was no way for a pregnant woman to know the sex of her unborn child. But in the 1970s, the technique of amniocentesis – withdrawing fluid from the amniotic sac surrounding the fetus – became a practical technique. Conducting lab tests on the fluid, medical researchers could detect hereditary diseases and congenital defects in the unborn fetus – and its sex.

In 1978, some 15,000 amniocentesis procedures were performed in the U.S., which is about one-half of one percent of the 3.4 million live births in that year. It is estimated that amniocentesis could beneficially be used in 5 to 10 percent of pregnancies.

While amniocentesis is performed mainly on women carrying a child that is deemed at risk of having a serious medical problem, there is reason to believe that its use in sex selection has been at least considered. A fetus's sex can be determined at about the 16th week of pregnancy and if it is of the "wrong" sex, it can then be aborted.

Abortion is one of the world's most common methods of fertility cntrol. And parents in many countries have a serious interest in what sex their child will turn out to be – mainly, a traditional preference for males. Is use of amniocentesis liable to cause sex selection on a large scale?

A definitive answer to this complicated question is not possible. All that can be said is that in the U.S. (and presumably in most other more-developed countries) such use is not likely to be common; in less-developed countries, it also seems unlikely, though this conclusion is less certain. There, the intensity of preference for males is much greater and more widespread. China and India are the two countries mentioned most often in reports of amniocentesis being used for sex selection. From China have come occasional reports of unusually high sex ratios among the babies at one clinic or another, despite the government's fervent oppositon to sex selection. From India have come a number of reports of physicians advertising amniocentesis-and-abortion services for purposes of sex selection.

Most Indians, however, obtain medical services, when they obtain them at all, from a system of no-frills health centers and subcenters scattered throughout the country. Amniocentesis, which must be performed in a private, modern clinic, is a procedure presently out of reach of the vast majority of the population. (A *Washington Post* story from Aug. 25, 1982, put the fee at one clinic for amniocentesis, sex selection, and abortion at $60. This sounds low for a second-trimester abortion, but if true it would still price the procedure out of reach of the vast majority of the population – the average Indian makes about $120 a year.)

In the future, given the intensity of the demand, and the demand, so to speak, of physicians performing the procedure, or some simplification of the procedure,* the availability of sex selection by abortion might increase. Whether it actually will is totally unpredictable at this point.

The simplest sex selection technique, of course, would be to decide sex of the infant-to-be at conception. A determined search for a method of doing this has been made over the years, but with mixed results. (See PRB's *Population Bulletin,* "Boys or Girls? Parents' Preferences and Sex Control," for Jan. 1978.) Ronald Ericsson, a California-based specialist in reproductive physiology, is continuing to refine Ericsson's technique for separating sperm, which would make artificial insemination using a concentration of male (and perhaps female) sperm to increase greatly the odds of obtaining the sex of one's choice. Other researchers are working on methods based on timing intercourse with ovulation (as close to ovulation as possible to increase the chances for males; two or three days in advance to increase the chance for females). Such methods are still very much in the experimental stage. ☐

2. The Ethics

Amniocentesis is a simple but delicate medical procedure; in the U.S. its cost (including lab work) can be $500. The procedure is safe, but not totally risk-free (it appears to increase the chances of spontaneous abortion slightly).

Those in the U.S. who ask for amniocentesis for purposes of sex selection fall into three categories: couples worried about the transmission of sex-linked congenital defect; couples from other countries who are in the U.S. temporarily and who have a strong male preference; and couples who already have multiple children of the same gender.

Most U.S. physicians won't perform the procedure on such "frivolous" grounds; a small minority may comply with the request on the grounds that it is inconsistent to deny a couple the procedure for one specific reason.

Says John C. Fletcher, a specialist in bioethics at the National Institutes of Health: "My best impression is that [am-

Continued on next page

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*Amniocentesis can only be performed during the second trimester of pregnancy. Back in 1977, it was reported that a clinic in Anshan, China, had developed a relatively simple technique for determining the sex of the fetus after only seven weeks of pregnancy, by analyzing cells drawn through a tube inserted into the uterus through the vagina. But nothing further has been heard of this technique, and visitors to Chinese hospitals speak only of Western-style amniocentesis being employed for antenatal diagnosis.

Continued from preceding page

niocentesis specifically for sex determination] is very rare. The request is not rare, but the actual doing of it is rare."

Fletcher has followed the issue closely since the procedure became a practical method of determining (and selecting) sex of a child. In his writing he has examined many facets of the problem from the ethics of choosing sex to the social consequences, to such troubling dilemmas as: What would a firstborn daughter think if her parents take deliberate steps to ensure their second child is not female?

Ethical arguments in favor of technological sex selection are sometimes made.* But Fletcher, while feeling that parents who desire sex choice are sometimes subjected to selectively harsh moral judgments by some critics, does not find such arguments convincing. Whatever rationales may be formulated in individual cases, he says, choosing one sex in preference to the other is ultimately "sexist." ☐

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*For example, someone could argue that in overpopulated societies with a strong male preference, a first boy would result in lowered population growth, with consequent benefits to that society.

Photocells Could Power Future

Photovoltaic cells–the gleaming violet wafers that adorn the solar panels of space satellites–may become an increasingly important energy source here on Earth, according to the new Worldwatch Paper, "Electricity from Sunlight: The Future of Photovoltaics," by Christopher Flavin.

The cells convert sunlight directly into electricity, with great efficiency and simplicity (no moving parts). But heretofore, the cost of their production has prevented them from competing in the marketplace with other energy sources, including other forms of solar energy production.

"Cost reduction is the key to solar electricity's current role and future," Flavin says. "Photovoltaics has so far followed a remarkable cost curve, with prices decreasing by an average of more than 50 percent every five years. Recently the average price of photovoltaics has fallen to less than $10 per peak watt in 1982. Photovoltaic electricity is still over five times as expensive as conventional power sources, so further cost reduction is essential."

Approximately 8,000 kilowatts worth of solar cells were manufactured in 1982. About one-third of these are used to power remote communications installations, 20 percent provide power for water pumping, and 15 percent supply electricity to remote houses. Oil companies use them to power unmanned pipeline monitors. And Papua New Guinea has a sophisticated telecommunications network run by solar electricity.

For the future, Flavin sees the most important uses of photovoltaics as being in the Third World. "Photovoltaics will make small amounts of power available in virtually any corner of the globe, allowing developing countries to leapfrog the now prohibitively expensive processing of extending electricity grids to all areas. In Third World villages, just a few hundred watts of power can boost living standards and provide basic amenities for the first time." ☐

Copies of Worldwatch Paper 52 are available from PRB. Single copies are $2.00 each; 2-10 copies, $1.50 each; 11-50 copies, $1.25 each; 51 or more, $1.00 each. Orders and checks (made payable to PRB) should be sent to the Population Reference Bureau, PO Box 35012, Washington, DC 20013. (PRB assists Worldwatch Institute in the distribution of its papers.)

Continued from page 5

Important Factors to Consider

The *Bulletin* authors point out some typical shortcomings of cost-effectiveness analysis to date. Some analyses underestimate true costs by omitting the value of such items as donated contraceptives, volunteers' time, and research and evaluation. Others don't take into account the fertility impact of all methods distributed by a program, especially condoms, whose use is harder to measure. The authors also observe that "the data needed for cost-effectiveness analysis can be difficult to reconstruct from poorly designed or maintained records" and urge that plans be made in advance to collect the necessary data, as, for example, in a project now under way in Zaire.

They warn that cost-effectiveness analysis does not address all family planning issues. Other approaches are needed to change the circumstances that still prompt many rural couples in developing countries to need and want many children. Nor can such analysis provide all the answers about which family planning delivery systems to choose. PROFAMILIA in Colombia found out that clinics were less cost-effective than community-based distribution of contraceptives but realized that clinics were still needed as part of a comprehensive family planning program. However, the authors conclude that "today's cost considerations and limited funds" make cost-effectiveness analysis of family planning programs "almost imperative." ☐

Additional copies of the 36-page *Bulletin* (Vol. 38, No. 1), "Third World Family Planning Programs: Measuring the Costs," can be ordered from PRB's Circulation Dept., P.O. Box 35012, Washington, D.C. 20013 at $3.00 per single copy; 2-10 copies, $2.30 each; 11-50 copies, $1.90 each; 51 or more, $1.50 each. Colored 35mm slides of the *Bulletin*'s 13 charts, tables, and "technical boxes" are available at $6.50 per set. Orders of $20 and under must be prepaid. Add $1.00 for postage and handling on orders mailed inside the U.S. For orders mailed outside the U.S., add 25 percent to the cost of items ordered for postage and handling.

Vital Statistics Update

Latest Provisional Statistics for the U.S.: October 1982

	12 months ending with October				
	Number		Rate		
Item	1982	1981	1982	1981	1980
Live births	3,682,000	3,642,000	16.0	15.9	15.9
Deaths	1,978,000	2,000,000	8.6	8.7	8.7
Natural increase	1,704,000	1,642,000	7.4	7.2	7.2
Marriages	2,500,000	2,432,000	10.8	10.6	10.7
Divorces	1,183,000	1,217,000	5.1	5.3	5.2
Infant deaths	41,600	43,100	11.3	11.8	12.6
Population base (in millions)	...	...	231.1	228.9	226.7

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates from the 1980 Census.

Source. Monthly Vital Statistics Report (Vol. 31, No. 10) from the National Center for Health Statistics.

current readings

THE COMING BOOM: ECONOMIC, POLITICAL, AND SOCIAL, by Herman Kahn. New York: Simon and Schuster, 1982. 237 pp. $14.95. ISBN 0-671-44262-7.

Herman Kahn presents a very optimistic future for the United States (and the world) in **The Coming Boom.** He predicts that the U.S. will experience a "boom" or "revitalization" in the 1980s and 1990s. The economy will improve, and we will have dealt with the problems of unemployment, inflation, energy, defense, governance, and changing values. The result will be not only an economic recovery, but also an improvement in the country's morale and a return to the world leadership role previously held by the United States.

How will this boom come about? Kahn's reasons include the following: The baby boom generation will be established in jobs in the 1980s and 1990s and will be in the most productive period of their lives. The economy will experience a standard recovery as it adjusts to the "abnormal" situations of the 1970s. Inflation will be brought under control through the efforts of the Reagan administration. Energy costs will go down as growing supplies are made available and a more stable energy environment is established. New technologies and technological improvements are "ripe for large-scale exploitation." Finally, after two decades of "misguided" and "counter-productive" public policies put forth by the "neoliberal," "symbolist class," the Reagan administration is, according to Kahn, just what is needed to ensure the coming boom.

What is lacking in **The Coming Boom** is adequate proof of Kahn's rosy assertions. He seems to count heavily on the success of present economic policies, the "stability" of the energy situation, and the morale and outlook of the U.S. people. Two years into the Reagan administration, many observers think the "malaise" in this country has not disappeared or even lessened. The morale of the country seems to have deteriorated rather than improved. Where will the optimism needed to fuel Kahn's revitalization come from if the current (and future) social and economic conditions in the United States seem so pessimistic? The "coming boom" may be in the realm of possible futures for the U.S., but the author has not provided the analysis or proof needed by readers to seriously consider his viewpoint.

—Patricia Cancellier

U.S. IMMIGRATION AND REFUGEE POLICY, edited by Mary M. Kritz. Lexington, Mass.: Lexington Books, 1983. 415 pp., $23.95, hardcover; ISBN 0-669-05543-3.

The editor merged immigration and refugee issues within this book of 19 excellent selections and asked authors to consider policy implications in their topic treatment; this resulted in a well-rounded work, clearly indexed and with current bibliographies. The selections include, among others, three essays on Caribbean migration; a historical perspective on contemporary transnational migrations (Zolberg); analyzing the relationship of U.S. fertility growth vs. immigration growth (Bouvier); impact of immigration on social service programs (North); labor market impacts of immigrants (Killingsworth); global refugee movements and response strategies (Suhrke); international institutional mechanisms for refugees (McLean).

There is a recognition reflected in all essays that thoughtful answers to U.S. population policy issues can no longer be found within a narrow national-security perspective, rather we must consider a complex world of economic and political interdependence. A historical review in many selections of the issues under consideration provides the background necessary for well thought-through policy decisions. Recommended to those concerned with population policy issues around the globe.

—Alex von Cube

PASSENGER ARRIVALS AT THE PORT OF BALTIMORE, 1820-1834: From Customs Passenger Lists. Michael H. Tepper, General Editor, transcribed by Elizabeth P Bentley. Baltimore, Md.: Genealogical Publishing Co., 1982. 768 pp. $38.50. ISBN 0-8063-0996-2.

The publisher is issuing a series of the official Customs Passenger Lists for the early 19th century, for the five ports at which the vast majority of passengers arrived—Boston, New York, Philadelphia, Baltimore, and New Orleans. The lists, established by congressional legislation in 1819, provide proof of arrival of some 20 million persons during the remainder of the century.

The first volume in this series covers Baltimore from 1820 to 1834. Although it is mainly intended as a reference work for genealogists, specialists in historical migration or quantitative history can refine their data from these lists, or get something of the flavor of the individuals behind the statistics, who are arranged alphabetically like a phone directory. On page 1, for example, is C.C.C. Abelmann, a 32-year-old butcher from Hanover who arrived in Baltimore Oct. 17, 1833, aboard the *Jupiter.* And so on for 50,000 names, down to Geo. Zwischendeoks on page 760.

—Arthur Haupt

BITTER PILLS: POPULATION POLICIES AND THEIR IMPLEMENTATION IN EIGHT DEVELOPING COUNTRIES, by Donald P. Warwick. New York: Cambridge University Press, 1982. 221 pp. $24.95 hardcover. ISBN 0-521-24347-5.

In **Bitter Pills,** Warwick presents an astute criticism of the classical approach to population policy implementation, that of the "machine model," and offers an alternative: the "transactional model." The "machine model" says Warwick, assumes that a clear statement of goals, backed by legitimate decision-making authority, trained staff, close supervision, and reliable product delivery will result in effective implementation. Based on studies in eight countries (Egypt, Mexico, Kenya, Philippines, Dominican Republic, Haiti, India and Lebanon), Warwick concludes that this model is failing. He identifies a lack of sensitivity to cultural and religious mores, to implementer and client conceptions, and to the opinions of community leaders as the primary factor leading to this failure. In an attempt to remedy this, the author presents the "transactional model." He argues that while policy is important in establishing the directions and limits of a program, it cannot determine the exact course of implementation. Implementation planning must stem from interactions with the political, cultural and bureaucratic climates, with the implementers, and with the clients. After all, family planning will only be successful when the recipients themselves take action.

—Barbara Wyckoff

ENVIRONMENTAL SCIENCE: THE STUDY OF INTERRELATIONSHIPS, By Eldon D. Enger, et al. Dubuque, Iowa: Wm. C. Brown, 1983. 523 pp. $20.95 paperback. ISBN 0-697-04729-6.

This clearly written, well organized text book is appropriate for both high school and introductory college courses. **Environmental Science** examines the relationships between organisms and their environments, specifically stressing the effects of mankind. The problems of population increase, pollution and the use, or misuse, of diminishing natural resources are addressed. By using case studies of current events, students are able to apply theoretical knowledge to their present situations. The text succeeds in providing a comprehensive scientific, economic and political background, and in presenting realistic avenues of action. (A list of environmental organizations is included.) This is a most appropriate book for teachers striving to increase their students' awareness, and their ability to make intelligent decisions concerning the future of our world.

—Barbara Wyckoff

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ANNOUNCEMENT

The Population Reference Bureau is moving to its new building in downtown Washington, effective May 15, 1983. Address all correspondence to PRB, at 2213 M St., N.W., Washington, D.C. 20037. (Phone number remains the same: 202-785-4664.)

New 1983 Data Sheet Shows:

The Two 'Worlds' of World Population

The world now holds 4⅔ billion people, and total population will probably reach 5 billion within the next five years.

According to PRB's just-published 1983 *World Population Data Sheet,* prepared by demographer Mary Mederios Kent, the world birth rate is now 29 births per 1,000 population, with a death rate of 11 deaths per 1,000. This means that the world population is increasing at the rate of 1.8 percent annually. Eighty-four million people, equal to a country the size of Nigeria, will be added to the world during 1983.

Although much heralded fertility declines have occurred in some developing countries, these have been offset by a continuing drop in death rates due to improved health conditions, and the overall global growth rate has remained stubbornly high. The great population surge that began after World War II is continuing.

The persistence of high growth rates reflects the tremendous momentum inherent in population growth, as well as the lag time between declines in fertility rates and actual reductions in the numbers of births.

Around the world, the number of births per woman has declined. At the same time, however, the number of women of childbearing age is growing every year as a result of high fertility rates of the past. And with current fertility rates, these women can still be expected to average four children each.

Most of the world's growth occurs in those countries and regions that can least provide for them. The less developed countries, which account for 75 percent of the world's population, are growing at just over 2 percent annually, compared to only 0.6 percent for the more developed countries. These uneven rates mean that the less developed countries will constitute 79 percent of the world by the year 2000 and 83 percent by 2020.

"As we look at the Data Sheet," said Kent, "we are reminded that there are stark differences between the developed and developing world in every major demographic and economic indicator:"

- The birth rate in the less developed countries (LDCs) is twice that of the more developed countries (MDCs) – 33 com-

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EDITORIAL STAFF
Editor: Arthur Haupt
Consulting Editors: Patricia Cancellier, Elaine Murphy, Jean van der Tak, Robert P. Worrall
Demographic Editor: Mary M. Kent
Book Review Editor: Janice Beattie
Demographic Analysis Consultant: Leon F. Bouvier
Assistant to the Editor, INTERCOM en español: Mena M. Rios
Editorial Assistants: Karen Lombardi, Linda Peterson, Barbara Wyckoff
Circulation Director: Jacki Majewski

Editorial and Circulation Offices
2213 M Street N.W.
Washington, D.C. 20037
Telephone (202) 785-4664
Cable: POPREF WASHINGTON DC

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	U.S.	All other countries
Individual	$ 30	$ 37.50
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Working Toward the '84 Meeting

With the UN moving closer to the 1984 International Population Conference in Mexico City, the UN Fund for Population Activities has been holding a series of preliminary expert conclaves around the world to air issues of import to the 1984 meeting.

On Feb. 16 in New York, the UNFPA hosted a Briefing for Non-Governmental Organizations to discuss issues coming out of these expert meetings. The population experts at the New York meeting commented on a wide range of topics. Among their observations:

"The idea that development is the best contraceptive is rubbish," said Dr. George Zeidenstein, President of the Population Council, "but development *and* contraception are the best contraceptive." (Zeidenstein spoke on the Fertility and the Family meeting held in New Delhi in January 1983.)

"Both economic and family planning assistance are vital if migration problems are to be eventually solved," said Dr. Leon Bouvier, Director of Demographic Research and Policy at PRB. Bouvier pointed out the connection between population growth and international migration between less developed countries (LDCs) and between LDCs and more developed countries (MDCs). In the past, many had thought that the result of 3-percent growth would ultimately be massive starvation and social unrest. Now, however, Bouvier said, migration represents another kind of impact, which is being felt by both LDCs and MDCs. (Bouvier spoke on the upcoming expert meeting on population distribution, migration, and development.)

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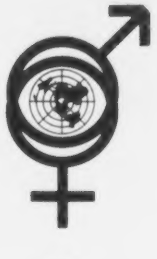
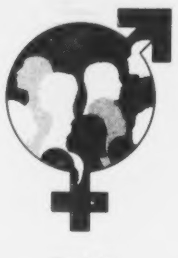
Logo Reader Poll



Past



Present

From CBS and its big eye to AT&T and its bell, seemingly every organization has a logotype (or "logo") to call its own—including PRB.

Since 1975, PRB has used a logo consisting of a crowd of people surrounded by a combined mythological sign for masculine and feminine. Prior to that, PRB used another symbol—the world surrounded by linked masculine and feminine signs. (See illustrations.)

Question: Which logo better represents PRB and its mission of informing the public about population in its widest scope (demography, family planning, development, current events)? If you have an opinion about what PRB's logo should be, we'd like to know about it. Contact: Editor, INTERCOM, 2213 M Street, NW, Washington, DC 20037.

China Likely to Overshoot Year 2000 Target

by Jean van der Tak

China's population ballooned by 314 million people in the 18 years between the census of 1964 and the July census of last year which counted 1.008 billion people. If the country's government has its way, the increase will be held to around 190 million over the next 18 years—they're aiming for a population no larger than 1.2 billion in the year 2000. H. Yuan Tien, author of PRB's *Bulletin* for April, "China: Demographic Billionaire," thinks China will overshoot that mark by 150 million and "reach 1.35 billion in the year 2000 if not before," despite the country's aggressive "one-child-per-couple" family planning campaign.

China specialist Tien, sociology professor at Ohio State University, points out that with the arrival at marrying ages of the large numbers of men and women born during the baby boom of the 1960s and early 1970s, the birth rate is bound to go up in the next decade and a half. It already has, according to the 1982 census, to nearly 21 births per 1,000 population in 1981, after dropping to a low of 18 in 1979, partly due to a surge of marriages in 1981 under a new law which permits marriage at 20 for women and 22 for men—three to five years earlier than had been allowed during the 1970s.

The one-child campaign was launched in 1979 in a deliberate effort to dampen the threatened second baby boom. By mid-1982, 15 million couples with a single child had pledged to have no more, theoretically entitling them and their children to special benefits—and penalties if the pledge is broken. But there are barriers to universal adoption of the one-child norm, Tien says, especially among the 80 percent of China's people who live in rural areas.

What happens to China's population makes a big difference in the global population picture. Its 1.008 billion of last July was 22 percent of the mid-1982 world total of 4.6 billion—more than a third again as large as second-ranking India's 714 million population in 1982 and double the combined 1982 populations of the third-ranking Soviet Union (270 million) and fourth-ranking U.S. (232 million).

From Optimism to the One-Child Family

In the first flush of victory after the People's Republic was established in 1949, China's leaders welcomed rapid population growth, Tien says. Communist Party Chairman Mao declared that "of all things in the world, people are the most precious" and confidently predicted that "revolution plus production" would solve the problem of feeding and employing China's burgeoning millions. Two first, lukewarm family planning programs were interrupted by the Great Leap Forward and its aftermath of crop failure and famine in 1958-61 and the Cultural Revolution of the late 1960s. Optimism dimmed as it was realized that China's hope for modernization could be defeated by population growth that soared to an average 2.7 percent in 1963-70, adding up to 22 million people a year. Since 1971, says Tien, China has become a "born-again" advocate of population control.

The *wan xi shao* "birth planning" campaign begun in that year established the norms of late marriage (mid-20s for women; late 20s for men), three to four years between births, and a two-child family. Following the principle of "state guidance and mass voluntarism," overall policy is set at the top and passed down the administrative and Party hierarchy to be translated into birth quotas and action programs at the grassroots level. Nearly 150 million "birth planning operations"—IUD insertions, sterilizations, and abortions—were performed between 1971 and 1977. By 1979 the population growth rate was reportedly down to 1.17 percent.

The one-child campaign was launched when calculations showed that with the surge of new parents in the offing, even a two-child family would mean continued population growth for at least half a century. Second births are now to be "strictly controlled" and additional births "resolutely prevented." Fertility control is being introduced even to China's 6.7 percent non-Han minority population whose growth was formerly encouraged because most of these 55 ethnic groups live in strategically sensitive border regions.

Couples who sign up for "one child glory certificates" are promised bonuses, larger pensions, extra living space, and free medical care and priority access to schools and later to jobs for their single child. The high cost of these benefits for the urban work units and rural production teams who are expected to provide them are one barrier to the one-child family, says Tien. Another is persistent male preference: reports of female infanticide have increased, despite official condemnation of the "feudal" prejudice against girls. (See "The Shadow of Female Infanticide," INTERCOM, Jan./Feb., 1983.) A major handicap to the family planning program in rural areas is the lack of public pensions for the elderly, Tien observes. A recent survey indicated that only 1

Continued on next page

So Long, SMSA!

On June 30, 1983, the term SMSA (Standard Metropolitan Statistical Area) will ride off into the sunset, as SMSA becomes plain MSA (Metropolitan Statistical Area).

The new name change is part of a realignment of definitions of metropolitan areas, something the Office of Management and Budget has jurisdiction over. Standard Consolidated Statistical Areas (SCSAs), which consist of MSAs and have a population of more than 1 million, are also affected. SCSAs will henceforth be Consolidated Metropolitan Statistical Areas (CMSAs), and their components, formerly SMSAs, are now called Primary Metropolitan Statistical Areas (PMSAs).

To recapitulate, there is now a new unit of metropolitan area, the MSA. When such an area is a component in a larger urban area (i.e., a CMSA), it is called a PMSA.

MSAs replace the venerable SMSA, which has been around for 30 years. But the MSA definition is very similar: an area containing either (a) a city of at least 50,000 population, or (b) an urbanized area of at least 50,000, with the total area having a metropolitan population of at least 100,000.

In its heyday, the SMSA, besides serving as a common geographic definition for all federal agencies, also acquired among its designees a certain cachet of bigness and importance (rather like "Podunk—Next 4 Exits"). Now, however, a complete review of SMSAs is underway at OMB—194 have been designated so far. And localities have a new honorific title—"MSA"—to flaunt, assuming they receive it. ☐

Continued from preceding page

percent of the rural elderly receive support from any source other than their children. And still another barrier is the government's agricultural policy. In order to boost production, under the new responsibility system peasants may keep or sell on the free market any food produced beyond their state quota. Once again it pays to have more children to boost family income when they reach working age. To halt this threat to fertility limitation, some rural areas have introduced double quotas: households must both deliver their farm quota and refrain from having an unauthorized birth, or pay a severe fine.

Controlling Rural Exodus

China must now also worry about what to do with a growing surplus of labor in rural areas, says Tien. Migration to cities has been strictly discouraged since the 1950s and the 1982 census showed only 20.6 percent of the total population living in urban areas. But rural exodus is now seen as inevitable, with 25 to 30 percent of peasants currently underemployed or unemployed and mechanization expected to put another 100 million out of work by the year 2000. The plan is to keep rural migrants from adding to the "population chaos" in large cities and channel them to small cities and towns scattered across the country, especially in the less densely populated western provinces.

China's efforts to control its population have earned admiration from watchers the world over, says Tien, but also stirred misgivings for the coercion sometimes used to meet birth quotas. He points out that the Chinese press roundly criticizes overzealous local officials who "mobilize" men and women to undergo sterilization or "persuade" women with unauthorized pregnancies to undergo abortions. However, China has also decided that, given its unprecedented population growth since the 1940s, "a temporary limit to parenthood must be set in accordance with the nation's ability to feed, clothe, and shelter all its people now and to improve living standards in the future."

A frequent visiting professor to Chinese universities, H. Yuan Tien is the author of numerous books and articles on China's demographic trends and policies. His *Bulletin* on "China: Demographic Billionaire" was begun during his 1981-1982 tenure as Andrew W. Mellon Visiting Scholar at the Population Reference Bureau. ☐

Additional copies of the 42-page *Bulletin* (Vol. 38, No. 2), "China: Demographic Billionaire," can be ordered from PRB's Circulation Dept., P.O. Box 35012, Washington, D.C. 20013 at $3.00 per single copy; 2-10 copies, $2.30 each; 11-50 copies, $1.90 each; 51 or more, $1.50 each. Colored 35mm slides of the *Bulletin*'s 17 charts and tables are available at $8.50 per set. Orders of $20 and under must be prepaid. Add $1.00 for postage and handling on orders mailed inside the U.S. For orders mailed outside the U.S., add 25 percent to the cost of items ordered for postage and handling.

U.S. Divorces Dip 3 Percent

The U.S. National Center for Health Statistics reported in March that the annual number of divorces in the U.S. declined in 1982 for the first time in 20 years (provisional numbers). The figure – 1.18 million divorces – was 3 percent under the 1981 level.

The divorce rate also declined, from 5.3 divorces per 1,000 population to 5.1 per 1,000, a 4 percent decline. At the same time, marriages rose by 2 percent, from 2.4 million in 1981 to 2.5 million in 1982.

The divorce rate has more than doubled in the U.S. since 1960, when it stood at 2.2. The late 1960s and early 1970s were the period when the upward trend was steepest. In 1975 the rate reached 5.0, and since that time has risen slowly. Whether the apparent dip in number of divorces represents a trend is unclear; some commentators in the media speculated that unemployment and the uncertain state of the economy might mean that divorce-disposed couples might not be able to afford the expenses associated with divorce right now. However, it's at least as plausible that the rate, having reached a plateau area in the low 5s, might simply be fluctuating.

What does the divorce rate decline mean as far as the U.S. propensity to divorce is concerned? Comparing marriage and divorce rates for the same year is not particularly illuminating, because the divorces in a given year are happening in the vast pool of married people (who in most cases were married in other years); while new marriages are occurring among the separate pool of single people.

A 1980 study by the National Center for Health Statistics gives a clearer picture of how the marriage and divorce rates relate to each other. The study developed a set of duration-specific divorce rates for 1976 and 1977 (the most recent dates for which data were available). It also developed estimates showing what proportions of marriages that took place from 1950 to 1973 were still intact in 1977. With these data, it was possible to project the probabilities of divorce into the future for marriages that took place in different years (assuming, that is, that the divorces took place according to 1976-1977 rates). The more recent the marriage, the higher the projected divorce rate, so that while some 29.5 percent of marriages that took place in 1950 were projected to ultimately end in divorce if they had not already done so, for marriages that took place in 1977, the percentage projected to end ultimately in divorce was put at 49.5 percent – essentially one out of every two. ☐

Four Small Steps . . .

- A simple, effective oral rehydration therapy (ORT), composed of sugar, water, and salt.
- A more heat-stable measles vaccine.
- A trend back toward breastfeeding and away from bottle feeding.
- The use of child-growth charts, to enable mothers to detect malnutrition in early stages.

Four simple medical developments that could save as many as 20,000 children a day in Third World countries, according to UNICEF, and cost about $1 billion to implement. Further, says James Grant, UNICEF's Executive Director:

> "It is the conclusion of the experts that if we are successful in cutting the death rates in half through these measures, it will reduce births even more by the 1990s. It is quite possible before the end of the century that for each birth, say, that there will be two or three births avoided, and that this will result in substantially slowing population growth." ☐

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At Brazilian Population Conference:

Double the Hemisphere's Population Aid, Say Legislators

by Peters D. Willson

Last December, political leaders from throughout North and South America gathered together to dedicate themselves to promoting government support for family planning services and information in their countries. More than 60 members of the parliaments and legislatures of 20 Western Hemisphere nations concluded the four-day meeting of the Western Hemisphere Conference of Parliamentarians on Population and Development in Brasilia, Brazil, with a unanimous acclamation of government backing for family planning.

The conference delegates called on their region's governments to "ensure that all individuals can exercise their basic right to decide freely and responsibly the number and spacing of their children, by providing family planning information and services..." To assist these governments, the conference participants also endorsed a recommendation to the industrialized nations that they effectively double their population assistance internationally by 1984.

At the conference, held Dec. 2-5, the delegates also approved, without debate, a separate report which targeted the achievement of replacement level fertility for the region around the year 2000. The magnitude of these goals – universal access to contraceptive services and achievement of essentially a two-child family norm – is enormous. Throughout the four days, speakers ranging from government officials of several nations, to UN leaders, and private organization heads, hammered away at the demographic and economic hurdles confronting the countries of Latin America and the Caribbean. Together, these countries today are home for almost 380 million people. Their annual growth rates range from about 1.2 percent to more than 3 percent, guaranteeing that the region's population will double by the year 2020 – less than 40 years away – if current trends persist. Their urban centers, already housing more than 60 percent of the peoples of the region, are growing by 5 percent a year through in-migration. They will double in population by 2005, less than 25 years away, without a change in trends.

The economic ability of these nations to face up to these demographic challenges is strained. Despite the bountiful resources of a country such as Brazil, which has the 10th largest GNP in the world, the nations of the region have economies that generally are stagnating under the burden of enormous international debt, as they struggle to pay off their oil import bills. Inflation is running at 100 percent per year in some countries, and an estimated 30 million children are abandoned or homeless.

That the conference was held in Brazil – a relatively affluent nation by Latin American standards – actually underscored the problems. Despite Brazil's own high growth rates in the past – economic growth for several years hit 8 percent compared to 2 percent population growth – the country still has what one official labeled an enormous "social debt" – growing numbers of homeless, illiterate, and jobless people. According to Rubens Vaz da Costa, former Secretary of Economy and Planning for the State of Sao Paulo in Brazil, during the past 10 years the number of illiterate Brazilians increased from 18 million to 19.3 million; 20 million people are without piped-in water; and urban crowding is unprecedented.

If Brazil underscored the problems that face even the relatively affluent Latin American countries, the conference site of Brasilia – a city of 1.2 million people in the heartland of the nation, literally built from scratch just 25 years ago – was an ever-present reminder of what can be accomplished with sufficient political determination and vision. In just a quarter of a century, Brasilia has become a bustling city, poised on the verge of the 21st century with its almost space-age architecture, best exemplified by the National Congress buildings where the conference delegates met daily.

The U.S. delegates to the conference – Rep. John Porter (R-Ill.) and Rep. Paul N. McCloskey (R-Cal.) – could tell their colleagues the difference that legislators can make in winning government support for family planning. Virtually throughout the 20 years the United States government has funded family planning programs at home and abroad, to the tune of more than $3 billion domestically and $2 billion internationally, Congress has persistently led the way – sometimes pushing and sometimes dragging one administration after another.

Today, it is Republicans such as Rep. Silvio Conte (R-Mass.), Sen. Lowell Weicker (R-Conn.), and Sen. Robert Stafford (R-Vt.), as well as Democrats such as Rep. Henry Waxman (D-Cal.) and Sen. Howard Metzenbaum (D-Ohio), who are pressing the administration to maintain government support for domestic family planning programs.

The Western Hemisphere conference was the fourth regional conference of its kind growing out of the 1979 International Conference of Parliamentarians in Columbo, Sri Lanka. Parliamentarians also have met in Asia, Africa, and Europe. A new round of regional conferences will begin in 1984 leading up to the second international conference, to be held immediately preceding the 1984 International Conference on Population sponsored by the UN and hosted by the Mexican government in Mexico City.

Although the fourth in the series of regional meetings, the Western Hemisphere Conference was the first of its kind ever to be held in Latin America, and the atmosphere of breaking new ground was palpable during the four-day meeting. Opening with welcoming speeches from the political leadership of Brazil as well as written messages of greetings from President Ronald Reagan, who coincidentally was in Brazil at the same time as the meeting but did not attend, and UN Secretary General Perez de Cuellar, the conference was organized into plenary sessions and committee meetings covering four broad topics: population and development, migration and urbanization, the well-being of children, and the status of women. Given such a vast array of important issues, the delegates could only begin to explore their dimensions and their political implications for their respective countries. Thus, it was not surprising that a major portion of the conference's final declaration included several recommendations for continuing the work of convening Western Hemisphere parliamentarians in the months and years ahead.

The conference delegates called for the establishment of "National Population Councils" to initiate and coordinate population and development policies; the formation in each

Continued on next page

Strife over Migrants Erupts in Indian State

During the month of February, the northeast Indian state of Assam was rocked by protests, strikes, and confrontations between Assamese, mostly Hindu, and immigrants, mostly Moslem. The result was the death of at least 3,000 men, women, and children, the majority Moslem, burned villages and fields, and the creation of over 100,000 homeless.

Animosity between the two groups has existed for years. Bengalis, both Hindu and Moslem, have been migrating to the Assam region since before 1947, when the British employed the Bengalis on tea plantations. In addition, Moslems began emigrating from Bangladesh in 1951. Continued migration, combined with natural population increase, has resulted in the presence of over 9 million foreigners, 40 percent of the total population of Assam. Four years ago, an antimigrant movement was started by Assamese students. They claim that the true identity of Assam is threatened both culturally and linguistically by the immigrant population. The militants also argue that the migrants are taking away valuable arable land and jobs.

Eleven months ago, a series of protests by native Assamese led the government of Prime Minister Indira Gandhi to place the region under direct rule from New Delhi. Assamese political and student groups engaged in talks with Gandhi's government. A decision was reached that anyone who settled in Assam before 1961 could stay, and those who arrived after 1971, approximately 1 million, would be repatriated to other parts of India. However, the militants' demand that those who arrived between 1961 and 1971, approximately 3 million, be either denied the right to vote or forced to leave, was refused. After the talks broke down, Gandhi called for state-wide elections. The Assamese boycotted the elections and threatened to kill anyone who voted. It is these elections, held the week of Feb. 21, that ignited the volatile situation.

The troubles in Assam come six weeks after the deportation of over 1.2 million foreigners from Nigeria. In both instances the countries involved have been resource-poor, less developed countries with rapid rates of population growth. And in both instances the influx of immigration has resulted in social strife between the new immigrants and the native-born population – mass violence in the case of Assam; mass expulsion in the case of Nigeria. The question now arises, as Indira Gandhi asks, "Where are we going to send these people?" ☐

Continued from preceding page

country of "National Committees of Parliamentarians on Population and Development;" the creation of a regional "Forum of Parliamentarians on Population and Development;" and the appointment of parliamentarians as members of government delegations to the UN's 1984 International Population Conference. In addition, the delegates also voted for several recommendations regarding international migration policy, public health goals, development assistance funding and strategies; and the rights of women and children.

The goal of expanding family planning services alone will require significant political will in light of the economic constraints facing the region. Their own economies will need to revive in order to undertake new and expanded health and social service programs for the delivery of family planning services. The economies of industrialized, aid-giving nations also will have to revive, for all are experiencing domestic economic difficulties which make the giving of international development assistance more difficult. Indeed, both the UN Fund for Population Activities and the International Planned Parenthood Federation, experiencing shortfalls in donations from industrialized governments, are being forced to rethink their spending priorities as they pull limited funds away from Latin America and begin to direct them toward the poorest nations in Africa and Asia.

Recognition of the need for political determination and initiative was given by Haraldo Sanford, first vice president of the Brazilian Chamber of Deputies and secretary general for the Western Hemisphere conference. In his closing remarks to the conference he set the example of political determination needed throughout the region by declaring that he personally would return to the Brazilian legislature in 1983 to push for the introduction of legislation to establish a national family planning program. ☐

Peters D. Willson is Associate for Policy Development at the Alan Guttmacher Institute, Washington, D.C.

Year 2000 Population Could Exceed Countries' Ability to Raise Food

Writing on a scientific study carried out by the Food and Agriculture Organization (FAO) with funding from the UN Fund for Population Activities, Paul Harrison concludes in an *Earthwatch* publication that "at subsistence levels of farming, the entire cultivable lands of the developing world – three or four times the present cultivated area – would barely be able to support the expected population for the year 2000. Sixty-five countries would be unable to feed their population from their own lands at the end of the century."

By examining factors that affect productivity, such as soil type, climate, and the slope of the land, the researchers were able to calculate the potential yields for the major crops that could be grown in each region. Yields in terms of calories were calculated and then divided by the average recommended calorie intake for each country based on its population. The global results show that theoretically the developing countries will be in a tight situation at best in the years to come. The study, however, assumes that there will be free movement of surplus food across national boundaries, regardless of ability to pay, and that all land will be used for food crops. It does not take into consideration that some land is set aside for nonfood crops, such as cotton, fuelwood, tea, and coffee, nor does it consider the growing demand for meat and milk products, which require several times more hectares than cereals or roots to produce the same calorie output.

When these factors are considered, and the results examined on a regional/local level, the picture is sobering. Over 58 percent of African countries, 93 percent of the Southwest Asian countries, 66 percent of Central American and Caribbean countries, and 37.5 percent of Asia will be unable to feed their populations by the year 2000.

The capacity for food production is unevenly distributed

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State-of-the-Art Population Policies from Lester Brown

There is a race between population growth and economic growth. That fertility usually falls as economic development increases is a generally accepted concept. Which comes first, the fertility fall or the economic rise, is more hotly debated, though the majority of population experts probably favor the former.

In the early 1980s, a number of optimistic theories surfaced concerning world economic potential, with the corollary that such economic potential, like the proverbial rising tide, would lift the population boat along with all the others. Ironically, this burst of intellectual optimism (mainly in some newspaper columns and a few books) has come at a time when the world economy has suffered its longest recession since the 1930s–a recession that, far from being the darkness before the dawn of some electronic age, instead, in Lester R. Brown's words, "may [be presaging] a basic shift in the world economy, a shift to slower long-term economic growth."

In the new Worldwatch Paper, "Population Policies for a New Economic Era," Brown considers the world population problem in the context of that slowdown. During the 1970s, incomes fell in 18 countries containing 121 million people as population growth outpaced economic growth.

"This disturbing development is dividing the world into two groups: those where economic growth exceeds population growth, and those where it does not." Brown says in his study, funded by the UN Fund for Population Activities. "One group can hope that the future will be better than the present. In the other, hope is turning to despair as economic conditions worsen."

Incomes are falling, almost without exception, in those countries that have given little attention to the population side of the population/resources equation. In these countries both the attention of political leaders and the allocation of budgetary resources have been concentrated almost entirely on the supply side of the equation, on expanding output. As a result of this imbalance, more and more of the growth in output is required to satisfy the growth in population, with little remaining to improve living standards, Brown says.

Countries with rapid population growth today can no longer assume that incomes will rise enough to automatically bring down birth rates, as they did in societies that industrialized earlier, Brown says. Recovery from a three-year worldwide economic recession will be slowed by increased pressures on the economy's resource base, both renewable and nonrenewable.

"As economic growth slows, the population problem changes," Brown writes. "In the past, rapid population growth slowed improvements in income, but for many countries, it now precludes them."

Recent experiences show that countries with well-designed family planning programs can bring down birth rates before attaining high levels of affluence. China, both the largest and best known example, has an aggressive family planning program. It is also the first country, Brown says, to adopt the one-child family as a social goal.

Other East Asian countries achieving sharp reductions in fertility are Hong Kong, Singapore, South Korea, Taiwan and, more recently, Indonesia and Thailand. Within the Western Hemisphere, Barbados and Cuba, with birth rates of 17 and 14 respectively, are in the same fertility league as the United States, with a birth rate of 16. Colombia and Costa Rica have also made impressive gains in reducing fertility.

"In an age of slower economic growth," Brown warns, "improvements in living standards may depend more on the skills of family planners than on those of economic planners." ☐

Copies of Worldwatch Paper 53, "Population Policies for a New Economic Era" by Lester R. Brown (45 pages), are available from PRB. Single copies are $2.00 each; 2-10 copies, $1.50 each; 11-50 copies, $1.25 each; 50 or more, $1.00 each. Orders and checks (made payable to PRB) should be sent to the Population Reference Bureau, PO Box 35012, Washington, DC 20013. (PRB assists Worldwatch Institute in the distribution of its Papers.)

NCHS Gets New Director. Manning Feinleib was appointed to be Director of the National Center for Health Statistics, effective Jan. 1, 1983. He replaces Dorothy Rice, who retired last year. Formerly on the staff of the National Heart, Lung, and Blood Institute, Feinleib, a physician, is a past president of the American Epidemiological Association and of the Society for Epidemiological Research.

Latest Nortman 'Fact Book' Out

The newest edition (the 11th) of that indispensable reference book *Population and Family Planning Programs* has just come out, published by the Population Council. Also widely known on an informal basis as the "Fact Book," or simply "Nortman" after its principal author, Dorothy L. Nortman, the book contains a cornucopia of usefully recent population data, governments' positions on population growth and family planning (for 84 less developed countries), and data on the costs and results of family planning programs and contraceptive use.

Of particular interest are the tables giving contraceptive prevalence rates for 29 less developed countries (e.g., 70 percent of married women of reproductive age in Taiwan were using contraception as of 1981, compared to 12 percent in Bangladesh in 1980) and breakdowns of contraceptive use by method and age of women for 21 counties. Also shown are tables detailing policies of 57 less developed countries with regard to abortion, and (in a general way) policies toward pill prescriptions and injectables in 20 less developed countries. Prevalence of different strategies for encouraging breastfeeding are also detailed.

A perceptual problem in the family planning field is interpreting the success (or lack thereof) of a program and the reasons for that result. As this 11th edition demonstrates, the data have improved, making it easier for specialists to examine how governments approach and support family planning in their country, why family planning programs succeed or fail, and what the true demand for contraception is.

Population and Family Planning Programs: A Compendium of Data Through 1981, by Dorothy L. Nortman with the assistance of Joanne Fisher (96 pages) is available from the Population Council, One Dag Hammarskjold Plaza, New York, N.Y. 10017. For orders from more developed countries, the price is $6.00. For orders from less developed countries, single copies are free on request. ☐

demographer's page

Carl Haub, formerly of PRB, is a Washington demographer.

Where Does the U.S. Stand in Infant Mortality?

by Carl Haub

One of the more popular uses of statistics relating to population, or virtually any other subject, is the production of rankings. Once a comparable set of statistics has been prepared for a group of countries, cities, counties, or some other collection of places, the urge to rank seems irresistible. In the United States, the race among counties for "number 1" status on income is particularly enthusiastic, although the distinctions between income per capita, per household, or per family are often left in the dust.

A good part of the interest in such rankings, of course, stems from national or local pride, rather than practical application. But one statistic frequently compared among countries – the infant mortality rate (IMR) – can be a sensitive one, because it measures the mortality of a country. Articles frequently appear in the print media, at times quoting a political personality, citing the U.S. ranking on infant mortality. Perhaps the reason for citing this rank is shock that the U.S. is not lowest in infant mortality, or an understandable concern about what others are doing right and "we" are doing wrong.

All of this, however, leads one to wonder – where *does* the U.S. rank in infant mortality? Since only a minority of the world's countries have completely registered vital statistics, and even those data do not necessarily appear on a regular basis, how does one go about ranking countries on this important rate?

Strictly speaking, comparing the U.S. with other countries on infant mortality simply means assembling a rank-order list of IMR rates, from lowest to highest, and seeing where the U.S. ranks. But there are obstacles: same-year data (necessary for an equitable comparison) are not always available; furthermore, countries differ in their ways of collecting data and in their definition of infant deaths. Coming up with a coherent list of comparable rates is the purpose of this Demographer's Page, to determine the most recent year that international IMRs are available, select a reasonable cutoff point for countries with low IMRs, and see just where the U.S. stands.

The IMR Defined

The infant mortality rate (IMR) is the number of deaths to infants under 1 year of age per 1,000 live births in a given year. In the U.S. in 1980, there were an estimated 45,000 infant deaths, 3,598,000 live births, and the IMR was 12.5.

$$\frac{\text{Number of deaths to infants under age 1}}{\text{Total live births}} \times K = \frac{45{,}000}{3{,}598{,}000} \times 1{,}000 = 12.5.$$

Source. Provisional data, National Center for Health Statistics.

The Infant Mortality Rate

The IMR tries to measure the risk of an infant's dying in the first year of life. In fact, it doesn't do this in an actual sense. The IMR is defined as the number of infants below age one who die in a given year divided by the number of live births in that same year. (Thus, an infant born in December 1980 who dies at three months of age would be included with the infant deaths of 1981, not 1980.) This slight slippage in the date of birth of infants in the numerator of the IMR and the date of birth of those in the denominator should rarely cause serious problems in comparing IMRs, but it is important to know what one's definitions are.

There are other potential problems with the comparability of countries' IMRs. The IMR is, after all, not the result of all births and infant deaths which occur, but of those which are registered. If, for example, in a given country, an infant's death is more likely to be registered than the birth, the country's IMR would be biased upward. And there are other problems with data in infant mortality. How is an infant's death defined? France, for example, chooses not to classify an infant dying prior to the registration of birth as an infant death. The USSR excludes infants born alive after less than 28 weeks gestation, of less than 1,000 grams in weight, and 35 centimeters in length, who die within seven days of birth.

Yet while it is true that there are some problems with the timeliness and comparability of the reporting of infant mortality, the task addressed here is probably not seriously compromised. In ranking the U.S. in this measure, our task is thankfully somewhat simplified. Just as the U.S. has developed an excellent vital statistics system, so have all other countries which also can be reasonably expected to have relatively low infant mortality.

Fortunately for purposes of comparison, the differences between these countries' IMR definitions do not matter as much as might be supposed. In a 1981 article, Charlotte Hohn analyzed these differences.[1] While they exist, she found they do not have significant impact on rankings of countries by IMR. That is to say, IMR rankings of countries vary little no matter whether IMR figures are ranked according to each country's separate definition of IMR, or according to a common definition. Recognizing that perfection in comparison will never be achieved, we can nonetheless attempt international IMR comparisons with some confidence.

Ranking the Countries

Ideally, one would like the "very latest" IMR data. But because countries calculate this measure with varying promptness, 1980 is the most recent year for which we can list IMRs for all the leading countries.

Countries of the World Ranked by 1980 Infant Mortality Rates

	Country	Infant Mortality Rate	
		1980	1981
1.	Sweden	6.7	7.0
2.	Japan	7.4	7.1
3.	Finland	7.6	—
4.	Norway	8.1	—
5.	Denmark	8.4	—
6.	Netherlands	8.6	8.2
7.	Switzerland	9.1	
8.	France	9.9	9.6
9.	Canada	10.4	—
10.	Australia	11.0	—
	Belgium	11.0	11.7
12.	Spain	11.1	10.3
13.	Ireland	11.2	—
	Hong Kong	11.2	9.8
15.	Singapore	11.7	10.8
16.	New Zealand	11.9	11.7
17.	United Kingdom	12.1	—
	East Germany	12.1	12.3
19.	**United States**	**12.5**	**11.7**
20.	West Germany	12.6	—
21.	Austria	13.9	12.6
22.	Italy	14.3	14.1
23.	Israel	15.1	14.6
24.	Malta	15.5	13.1
25.	Czechoslovakia	16.6	16.8
26.	Brunei	17.5	—
27.	Greece	17.9	—
28.	Puerto Rico	18.5	—
29.	Costa Rica	19.1	—
30.	Cuba	19.6	—
31.	Bulgaria	20.2	19.5
32.	Poland	21.2	20.6
33.	Hungary	23.1	20.6

Note. This table lists all countries with 50 or more infant deaths reported in 1980 and an IMR below 25, excluding Jamaica and the U.S. Virgin Islands because their most recent data are from 1978. In addition, 1979 rates for Portugal, Barbados, and Trinidad and Tobago, 26.0, 25.1, and 26.4, respectively, suggest that their 1980 rates (not yet available) may be below 25. The vital statistics of all countries in the table are considered "complete" (i.e., 90 percent or better) by the UN Statistical Office.

The UN Statistical Office collects demographic data regularly and publishes quarterly summaries in *Population and Vital Statistics Report* (PVSR). Most countries are available for 1980 in the PVSR, while data for others can be obtained from other sources. Some data reported are provisional in that they may be revised slightly when final tabulations are made, but this should not cause serious problems for our listing.

Turning to the table, we can see that in 1980 the U.S. IMR of 12.5 ranked 19th, just behind that of the United Kingdom and East Germany and ahead of West Germany. While the theme of this article is to determine the U.S.'s ranking on this measure, it is difficult not to at least wonder why the U.S. ranks where it does. Part of the explanation is the racial differential in the IMR in the U.S. In 1979, the IMR for whites was 11.4, while for nonwhites, it was 19.8. Thus, looking at the table, it can be seen that the IMR for whites would put the U.S. in 15th position, while that for nonwhites would drop the U.S. to 31th place. Other factors include the U.S.'s high proportion of births to teenagers, which often result in lower birthweights and higher resultant IMRs.

The table lists all countries given in UN statistical publications with IMRs below 25 which had at least 50 infant deaths in 1980. The selection of 50 infant deaths is somewhat arbitrary, but it does help to eliminate small countries with IMRs which can vary greatly from year to year as a result of small numbers. This cutoff eliminates Iceland from the table with a 1980 IMR of 7.7 and Luxembourg with a rate of 11.5. Other small countries not shown are the Faeroes Islands (10.0), the Channel Islands (11.4), Guam (16.3), and the Seychelles (24.0).

Summary

This exercise brings up a number of interesting statistical conundrums often overlooked when considering the rankings of countries on any statistic. What, exactly is a country?[2] Should Monaco, with one infant death in 1980, be included? How is infant mortality measured from country to country? How recent a year can one use?

This Demographer's Page represents an effort to answer the question of the U.S.'s IMR in a reasonable fashion. It is still somewhat unsatisfactory in that the data are several years old. The IMR in the U.S. has been decreasing at a rather rapid rate, and, since 1980, has declined to 11.2 for 1982. It seems likely that the U.S. has gained a few spots since 1980. With additional efforts in gathering recent IMRs, this listing could be rapidly updated. Results of this effort will be featured in future editions of *Intercom*. ☐

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The World Population Bomb Still Ticks Away

by Robert Fox and Carl Haub

The population explosion is alive and well, still moving forward at a speed anticipated by demographers. What has shifted drastically is public perception of the issue, now waning after 20 years in the limelight, a condition brought on by misleading news interpretations of birth rate trends. Demographers need to do a better job of righting the balance on this score.

Ever since the population "explosion" or "bomb" expression came into use, people have come to us with questions. What does population "explosion" really mean? Is it just another Doomsday prediction dispensed by empty-headed Cassandras? Is it real? Is it over? And we try to answer those questions time and time again. Yet, just as often one picks up the paper to read that the "experts were wrong" and the population bomb has "fizzled." There are, after all, few things more delicious than seeing an expert proven wrong.

Articles have appeared in the past year in major U.S. dailies announcing the end of the population explosion and the averting of demographic collapse. But absolutely nothing has actually happened to warrant such statements. Writers and reporters who earnestly try to write factual articles can be seriously misled on an issue which, in reality, is quite simple.

The facts of population growth are elementary and have remained unchanged for decades; no "new study" has uncovered any startling new evidence of any kind. The current flurry of "fizzle" articles was caused by a 1982 report from the United Nations Fund for Population Activities (UNFPA) which noted the decline in birth rates in some Third World countries. The report pointed out that if all countries' birth rates had remained at the rather high level of the 1950s, world population in the year 2000 would be about 7.5 billion (it is about 4.6 billion today). That statement is true. It is also true that the most recently published UN projection for the year 2000 is 6.1 billion, not 7.5 billion. At this point it is not difficult to see how one can be misled into thinking that world population in 2000 is now expected to be 6.1 billion, down from the 7.5 billion of the "earlier projection." But this is not the case.

The confusion stems from a misinterpretation of UN population projections, a series of projections issued at normally five-year intervals since 1958.

In order to project the future population size of the world's countries, one is faced with the rather knotty problem of guessing what the countries' future birth rates will be. This is no easy task. In most of today's Third World countries women have anywhere from five to eight children each. It is, however, generally accepted that as these countries modernize, their fertility behavior will at some point resemble that of today's industrialized countries where women usually have two children or less. But when will those birth rates fall? And when they fall, how rapid will the fall be? Will the decrease be swift at first and then lose momentum or vice versa? No one knows. It would be at least logical to assume that birth rates will exhibit different patterns in different countries depending upon their particular situation.

The UN evaluates each country and makes an educated guess as to just what the timing of its birth rate decline might be and projects populations with that assumption. Then, in order to indicate possible ranges of error in the future, the UN publishes three sets of projections: the "high" variant which assumes the slowest decline in birth rates, the "medium" variant, which assumes a somewhat faster pace, and the "low" variant, which assumes the quickest decline of all. This, of course, results in three possibilities for population in 2000 (the most recent range from the low to the high variant projection being 5.8 to 6.3 billion). World population in 2000, barring any major calamities such as nuclear war, is expected to fall in that range. It is a common (though not always totally appropriate) practice to ignore the high and low projections when discussing the future and simply cite the medium or "average" projection for 2000, 6.1 billion. In publishing its projections of world population since the late 1950s, the UN medium projection for 2000 has always hovered in the 6.1-6.5 billion range. Where, then, did the 7.5 billion projection come from?

In 1963, the UN published a fourth *illustrative* projection along with the high, medium, and low series. This projection assumed that all birth rates would remain constant (e.g. "constant fertility"). The projection was intended *solely* to show what world population would look like if all countries' birth rates remained at the level of the late 1950s, as opposed to what was actually expected. The "constant fertility" projection of 7.5 billion was never meant to be a baseline against which subsequent actual trends were to be measured. It was fully expected that birth rates would begin to come down in some Third World countries before 2000 while others remained high. To date, the UN projections are "tracking" quite well overall. In 1963, the UN projected a 1980 population of 4.3 billion. When 1980 rolled around the UN estimated a population of 4.4 billion. Not bad considering the gaps in information in 1963.

The fact remains that the Earth entered this century with less than 2 billion population, will close the century with over 6 billion and will probably reach somewhere between 8 and 14 billion when population stabilizes – that is, if the ecological system permits this to occur. There has been no change in the expectation for decades, and without radical shifts in values, little likelihood of change in the future. ☐

Robert Fox is a senior analyst at the Inter-American Development Bank. Carl Haub is a Washington demographer.

Frank Notestein 1902-1983

Frank Notestein, eminent demographer and founder (in 1936) of Princeton University's Office of Population Research, died Feb. 21 in Langhorne, Pa., at the age of 80.

Notestein was the first director of the UN's Population Division from 1946 to 1948. He also served as president of the Population Council (1959-1968) and as president of the Population Association of America (1946-1947). From 1968-1971 he was a member of PRB's Board of Trustees.

Notestein was an influential supporter of family planning programs and helped establish and guide major national and international efforts in contraception research. He "was a giant in the field" of population studies, said PRB President Robert P. Worrall. ☐

But Why Albany? A U.S. Per-Capital Analysis

OLYMPIA
SALEM
HELENA
BOISE
BISMARCK
PIERRE
ST. PAUL
MADISON
LANSING
MONTPELIER
AUGUSTA
CONCORD
BOSTON
ALBANY
HARTFORD
PROVIDENCE
HARRISBURG
TRENTON
DOVER
ANNAPOLIS
RICHMOND
CHARLESTON
COLUMBUS
INDIANAPOLIS
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FRANKFORT
JEFFERSON CITY
DES MOINES
LINCOLN
TOPEKA
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DENVER
SALT LAKE CITY
CARSON CITY
SACRAMENTO
SANTA FE
PHOENIX
OKLAHOMA CITY
LITTLE ROCK
NASHVILLE
RALEIGH
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JACKSON
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AUSTIN
JUNEAU
HONOLULU

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by Linda Peterson

Why does a particular city become a capital?

According to the early 20th century geographer, Vaughan Cornish, capital cities have "...'a double aspect, that of an urban community with exceptionally wide interests, and a geographical site with exceptional advantages." About the era of empire building, Cornish concluded that "Capitals fall into the three categories of natural Storehouses, Crossways, and Strongholds. ...the characteristic site of the imperial capital is in or adjacent to that Storehouse of the dominant community of the Empire which is nearest to the principal foreign neighbor. When by the growth of the empires the capital ceased to be in this position, the government transferred its seat to another city or founded a new city."

Cornish suggested that politics, economics, and geography determine the location of a capital. Thinking of world capitals today, one might add that they are typically largest cities, e.g. Madrid, Paris, London, Tokyo, Mexico City, Algiers, etc.

In the U.S., the two largest colonial cities, Philadelphia and New York, at first served alternatively as the national capital, from 1783 until 1800. However, the final choice was removed from the major cities because of strong regional patriotism and rivalry. A new capital, the city of Washington, was built from scratch at the Crossway between North and South.

This curiously American avoidance of major cities in the selection of a capital seems to be reflected across the country if one considers the 50 state capitals. They are most often *not* the major city of the state. Jefferson City, Mo., is no St. Louis; Austin is not Houston or Dallas. In other states, it is Springfield vs. Chicago, Albany vs. New York City, and Lansing vs. Detroit. The state capital could have been Los Angeles, Baltimore, Philadelphia, and Milwaukee; instead it is Sacramento, Annapolis, Harrisburg, and Madison, and there are many more examples. In only 15 states is the capital also the largest city in the state. Capitals are second largest cities in 10 states. In fully half the states, capitals are neither first nor second largest cities.

Seventeen states have capitals which rank fourth, fifth or lower in population among cities of the state. Extreme cases include Olympia, Wash., which is the 15th largest city in Washington; Jefferson City, Mo., which ranks 12th; Tallahassee, 11th among cities of Florida, and Harrisburg, Pa., ranking 10th.

There seems to be a regional pattern to the relative size of state capitals. Capitals are more often largest cities in the Southern, Western and North Central states than in New England.* Of the 15 states whose capitals are largest cities, 11 are in the South and West. Two are North Central and two are New England states.

Only 10 state capitals are among the 50 largest cities in the U.S. These include Phoenix, Indianapolis, Columbus, Ohio, and Boston. Phoenix is the largest state capital, with a 1980 population of 790,000, and it is the ninth largest city in the country. Indianapolis is the nation's 12th city, with a population of 701,000.

The smallest state capitals are Montpelier, Vermont, with 8,241 people, and Pierre, South Dakota with 11,973. These two towns are not so unusual among state capitals for their small size; 15 state capitals have populations under 50,000, and 21 have less than 100,000 people.

As might be expected, the proportion of state populations living in the capital is often miniscule. Thirty of the 50 capitals hold less than 5 percent of their respective state's population. The picture is quite different for the 50 states' largest cities. Twenty-nine of them contain more than 10 percent of the state population, whereas only 10 state capitals contain as large a proportion.

The question remains, why Albany? Although each state has its unique political history of how the capital was chosen, there were undoubtedly recurrent themes which today's

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*Bureau of the Census divisions.

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Continued from page 1

pared to 15 per 1,000 population. Because of this and the much larger LDC share of world population, there are almost seven times more births per year in the LDCs than in MDCs as a whole.

- While in the more developed regions women can be expected to have less than two children during their reproductive lifetimes – less than the replacement level of 2.1 children per family – women in the less developed countries can expect to have between four and five children.
- Crude death rates for the two regions are similar, 10 deaths per 1,000 in MDCs and 12 per 1,000 in the LDCs, but these crude rates mask the striking differences in mortality. For example, infant mortality is many times higher in the LDCs, 93 deaths per 1,000 births compared to 19 per 1,000 in the MDCs, and people in MDCs can expect to live 15 years longer (to age 73) than people in LDCs.
- The Gross National Product per capita is more than 11 times higher in the more developed regions, reflecting both the healthier economies and the lower populations in those countries.

This year's Data Sheet includes population, health and economic indicators for 171 countries and shows regional and subregional totals. Some of the highlights of this year's Data Sheet are:

- Kenya maintains its lead as the world's fastest growing country with an incredible 4.1 percent annual rate of natural increase. Despite stepped-up government efforts to institute the practice of family planning, births occur at the rate of 54 per 1,000 population. Kenyan women have an average of 8 children during their reproductive lifetimes. At these rates, Kenya's current 18.6 million population will double within 17 years.
- Africa continues to increase its share of world population with a 3 percent growth rate – the highest of any region. In 1983, about 11 percent of the world is African; in 2000 they will acount for 14 percent and by 2020, only 37 years away, they will make up 18 percent of the world. In addition to the extremely low living standards and inadequate infrastructure which make access to the means of family planning difficult, many of the countries on this continent tend to place a high value on large families and have resisted the idea of limiting the number of births. For countries which can scarcely feed their existing populations, not to mention educate and employ them, the millions of new births each year are a heavy burden.

This 1983 Data Sheet incorporates the major results of the historic 1982 China Census, the first comprehensive demographic statistics available from this country since 1964. Because its population is so huge (1.023 billion is the mid-1983 estimate) China has a major effect on regional and world totals – "when China's data sneeze, the world's statistics catch a cold." Consequently, about a fifth of each world rate or indicator on the data sheet is contributed by the Chinese. This effect is more pronounced for the totals listed for the LDCs, since China accounts for 29 percent of this group.

For this reason, the less developed countries excluding China are listed on a separate line to enable the reader to see what the rest of the LDCs are doing. Comparison of these two lines gives an indication of the importance of Chinese statistics: the LDC birth rate increases from 33 to 37 per 1,000, the total fertility rate increases from 4.5 to 5.2 and life expectancy decreases from 58 to 54 when China is excluded from the LDC total. This reflects the success of China's massive population-control program and government efforts to improve health. On the other hand, the per capita GNP for the LDCs increases from $728 to $916 without China. While this demonstrates China's relatively low level of development by conventional measures it also reflects the fact that the Chinese economy still operates somewhat outside the world system.

Other Highlights of 1983

Meanwhile, most countries are continuing their growth and are perhaps more populous than people remember. India, "only" 600 million in the early 1970s, is now at 730 million. Indonesia, which broke the 100 million barrier in the early 1960s, is now at 155.6 million. Bangladesh and Pakistan (at 96 and 95 million respectively) are both on the verge of the 100 million mark. By the year 2000, the 100 Million Club will also include Mexico and Nigeria, bringing its total membership to 11. (Present members are Brazil, China, India, Indonesia, Japan, the U.S., and the USSR)

In Europe, a number of countries continue to cluster around the zero-population-growth mark, where deaths equal or outnumber births. (There is nothing magical about the ZPG mark itself, just that countries with relatively old populations and low fertility may find their growth a little above or below ZPG.)

Three countries, West Germany, Hungary, and Denmark, actually show negative growth and three others, Sweden, Austria, and East Germany are presently around ZPG. Several other European countries are expected to lose population over the next 37 years, as demonstrated by the column of projections to the year 2020, and Europe as a whole will have 8 million fewer people in 2020 than in 2000.

A new feature of the year's Data Sheet is a column showing "Per Capita Calorie Supply as Percent of Requirements" for each country, as calculated by the UN's Food and Agriculture Organization for 1978-1980. This endeavors to measure the food realistically available to a country on a per capita basis against an index of the minimum daily calories required per person in that country to maintain "moderate physical activity." Food availability is estimated either from surveys of actual consumption or from food production data, adjusted for trade flows and changes in stocks. Losses to nonfood uses, including seed, livestock feed, industrial nonfood use, and estimates of losses incurred during transport and storage are subtracted out to arrive at aggregate food availability. Not taken into account are losses from storage or processing within the household, or inequities in food distribution within the country or within the family (sons or elders may be given more, for example). The calories required by a person are a function of his age, sex, body weight, and the level of physical activity. The FAO adjusted the estimates of the number of calories required per person for each country according to information available on each of these items allowing also for such factors as climate. If 100 percent of the minimum daily requirements are met, then the country is producing just barely enough food for its population. Since this cannot measure differences in the distribution of food, which are known to be considerable, it is certain that in countries with 100 percent or less of calorie requirements met, large groups of the populations are malnourished. □

Copies of the 1983 World Population Data Sheet are available from PRB. Single copies are $2.00 each; 2-49 copies are $1.75 each; 50 copies or more are $1.50 each. Orders of $20 and under must be prepaid. Add $1.00 for handling on orders under $20. (Add 25 percent mailing for orders sent outside the U.S.)

Some Results of the Rural Revival

In the 1970s the nonmetropolitan population of the U.S. grew faster than the metropolitan population, reversing a major historical trend of more rapid urban than rural growth. Author Larry H. Long of the Census Bureau calls it a rural revival in the PRB publication *Population Redistribution in the U.S.: Issues for the 1980s*.

Most surprising to population analysts is that truly rural counties which are not adjacent to metropolitan areas and which have no settlement as large as 2,500 grew by 14.6 percent between 1970 and 1980 – faster than metropolitan areas with populations of 500,000 or more, and faster than the national average of 11.4 percent. In the 1960s, these rural counties collectively lost 4.2 percent of their population. Similar rural counties adjacent to metropolitan areas grew by 19.0 percent between 1970 and 1980 after having lost 0.8 percent of their population from 1960 to 1970. On the other hand, metropolitan areas larger than 500,000 grew more slowly from 1970 to 1980 than from 1960 to 1970. The largest metropolitan areas of 3,000,000 or more actually lost 0.8 percent of their population 1970-1980 after having grown 11.1 percent from 1960 to 1970.

The fact that more people are staying in or moving to nonmetropolitan areas than are leaving them thwarts the traditional assumption that metropolitan areas would always be magnets for the rural population. According to Long, the "pull" factors of nonmetropolitan areas include employment growth, expanded recreational facilities, and a physical environment attractive to retirees.

Although the rural revival represents a remarkable reversal in population movement, it requires qualification. In the 1970s, as in the past, most of the nation's population growth occurred within and adjacent to metropolitan areas. Of the nonmetropolitan growth, 60 percent took place in counties adjacent to metropolitan areas, i.e., just beyond suburban territory.

Other trends have also been documented by the 1980 Census. The movement out of major northeastern and midwestern cities to the sunbelt continued in the 1970s. In addition, some inner suburbs of northern cities began to lose population, as did some central cities in the South and West. As the transition from growth to decline spreads from large northern cities to their suburbs and to some cities in other parts of the country, a major policy issue is whether the newly declining communities can avoid the abandonment and deterioration that has plagued inner cities of the North.

In a movement echoing the suburbanization around large cities, small cities of less than 50,000 grew far less rapidly than the unincorporated territory that surrounds them – 5.1 to 9.7 percent compared to 21 percent for the period 1970-1980. This difference probably reflects decisions by families, companies and shopping malls to locate outside city limits. The abandonment of the downtown areas of small cities is another problem that may have to be faced in the '80s.

A general policy question cited by Long is whether to direct government resources toward areas of declining population, which suffer from a reduced tax base, or to growing communities whose services quickly become overburdened. A related question is whether to direct resources toward the largest number of *places* experiencing rapid population change, i.e. nonmetropolitan counties, or toward those with the most *people* affected by population shifts, i.e. metropolitan counties. Ultimately, there is the need to tailor programs and policies to suit growth in some types of localities and decline in others. □

Population Redistribution in the U.S.: Issues for the 1980s is the third in a series of occasional papers, called "Population Trends and Public Policy," published by the Population Reference Bureau. Send order and remittance to Circulation Dept., PRB, PO Box 35012, Washington, D.C. 20013. Single copies are $3.00; 2-10 copies, $2.30 each; 11-50 copies, $1.90 each; 50 or more, $1.50 each. Orders of $20 and under must be prepaid and include $1.00 for postage and handling.

Drinking and Fetal Brain Damage

Scientists studying the effects of maternal drinking on the fetus have found in experiments with monkeys that alcohol causes severe oxygen deficiency in the fetus. Repeated episodes of oxygen deprivation may result in fetal brain damage, researchers at the National Institute of Child Health and Human Development (NICHD) suggest in *Science* magazine.

"We suspect that moderate or heavy drinking by pregnant women may have a similar effect on human fetuses," says Dr. Anil Mukherjee of NICHD's pregnancy research branch. The blood alcohol levels in the pregnant monkey studies were equivalent to those measured in humans after three to five drinks, he notes.

In a study funded partly by the National Institute on Alcohol Abuse and Alcoholism, Dr. Mukherjee and his co-investigator, Dr. Gary Hodgen, looked at the effects of alcohol in the mother's bloodstream on the function of the umbilical cord, which connects the placenta and the fetus. Through blood vessels in the umbilical cord, oxygen and nutrients are carried from the placenta to the fetus and waste products are carried from the fetus to the placenta.

In each case, all of the blood vessels in the umbilical cord collapsed within 15 minutes after alcohol was administered to the mother. Circulation between the placenta and the fetus gradually recovered during the next hour.

The effects of alcohol on the fetus have been a source of research interest and controversy for years. It is well known that heavy, chronic drinking by the mother during pregnancy can cause birth defects in her child. About one in 750 infants in the U.S. is afflicted to some degree with fetal alcohol syndrome, a cluster of defects that appear in babies born to alcoholic women. These defects, which are permanent, include characteristic head and facial malformations, heart and limb abnormalities, growth deficiency, impaired motor development, and mental retardation.

What is not clear are the effects of moderate or "social" drinking on the fetus. Consumption of moderate amounts of alcohol by pregnant women has been linked to subtle abnormalities in attention, behavior, and learning in children.

Fetal brain cells are extremely sensitive to low levels of oxygen, notes Dr. Mukherjee. While a single episode of hypoxia (oxygen starvation of body tissues) may or may not have discernible consequences, he says, one has to wonder about the cumulative effect of repeated episodes. He and his colleagues suggest that alcohol-induced hypoxia during the fetal period may account for mental retardation in children with fetal alcohol syndrome. □

Conference Meets at Wingspread

On March 6 through 8, some 50 specialists in population, resource, and environment issues from 18 states gathered at the Wingspread Conference Center in Racine, Wis. They met to participate in a symposium entitled, "Emerging Issues in Population and Resources," organized by the Population Reference Bureau.

This conference was part of a project to inform policymakers, and develop and provide adult education programs on current and emerging issues in population, the use of natural resources, and the environment. Using the *Global 2000 Report* and other similar analyses as basic references, the conference participants shared their insights on the problems and contributed to the development of education materials to be used by the local units of national organizations.

Kingsley Davis, now of the Hoover Institution, was the keynote speaker. Anne H. Ehrlich from Stanford University addressed the issue of environmental constraints faced when food production is expanded to meet the demands of an increasing population. David Pimentel of Cornell University looked at the interrelationships between natural resources and population; Stephen H. Schneider, Deputy Director, Advanced Study Program of the National Center for Atmospheric Research (NOAA), in Boulder, Colo., described pollution concerns; and George Tsongas, Professor of Mechanical Engineering at Portland State University, described passive solar energy in housing. Elaine Murphy and Patricia Cancellier of PRB presented models for adult education, and assisted the group in developing specific education strategies relevant to their work.

Participants in the conference represented research and policy groups as well as organizations whose purpose is outreach and public education. Included were the National Audubon Society, the Cooperative Extension Service, the Global Tomorrow Coalition, the World Future Society, the National Parks and Conservation Association, and a representative of Rep. James H. Scheuer's (D-N.Y.) staff, among others.

The setting of the conference was Wingspread, the last of the "prairie houses" designed by Frank Lloyd Wright. The conference was organized by PRB and the Johnson Foundation and sponsored by the Weyerhauser Foundation, the World Resources Institute, and the Farm Foundation. □

Continued from page 6

between climatic areas as well as between countries. In the hot, humid tropical regions, where crops have a longer growing period, one finds a relatively smaller population than in the dry, cooler areas. It has been suggested that a higher incidence of animal and human diseases, difficulties in clearing land, and the rapid growth of weeds all act to discourage habitation. Thus, areas with the greatest potential in food production are often the areas with smaller populations.

While the outlook for the future is somber, it is open to change if countries begin to accept the limitations of their land resources, and plan their agricultural and population policies accordingly. Harrison suggests that "Nations which emerge as critical will need to put every effort into raising the level of inputs into their farming, among small and subsistence farmers as well as large commercial ones."

For some countries it will also be necessary to develop alternative sources of income with which to buy imported food. Some nations will need to improve the distribution of income in order to reduce the level of food production needed to ensure a minimum calorie intake for everyone. "Without such measures," according to Harrison, "a large proportion of developing countries will begin to pass the limits of their lands' carrying capacity—if they have not already done so. When that happens, environmental degradation on an accelerating scale will be inevitable, and widespread human suffering will not come far behind." □

This issue of EARTHWATCH (8 pp.), which includes detailed maps and analyses of the world's developing regions, is available as a single issue free from PRB. (There is a $1.00 mailing fee.) 20 copies cost $3.50; 50 copies are $7.00; and 100 copies are $13.00.

Continued from page 2

Davidson R. Gwatkin, Senior Fellow of the Overseas Development Council addressed the fertility-mortality relationship. While life expectancy reached 60-65 years in the developed countries before levelling off, it is now showing signs of stabilizing at 40-45 years in developing countries. There is a temptation, he said to settle for moderate life expectancy levels in this area. "Our ultimate objective, however," concluded Gwatkin, "should be the achievement of a low mortality-fertility equilibrium rather than a moderate one," and warned against letting such a "silent resolution" occur. (Gwatkin spoke on the upcoming Mortality and Health Policy meeting in Rome.)

Rafael M. Salas, UNFPA's Executive Director, summed up the present situation in his keynote address, saying that "while there seems to be a sort of indifference to the population question today, particularly in the developed world, the interest has not diminished in the developing world—it has only increased." Salas pointed out that for every dollar UNFPA puts into programs, the developing countries themselves contribute four dollars. According to UN projections, the world's population will continue to grow for another 130 years before stabilizing at the 10.5 billion mark. Although we may not see the final results of many programs in our lifetime, concluded Salas, we can have the satisfaction of aiding in the establishment of a firm commitment for the future. □

New from PRB

"The Environment to Come: A Global Summary," by Elaine M. Murphy. This 14-page booklet presents a concise and readable summary of the current state and likely future of global population, resources, and environment. The summary is based on six global reports of recent years: *The Global 2000 Report to the President; Global Future: Time to Act; Interfutures; World Development Report 1982; World Conservation Strategy;* and *The North-South Report.* "The Environment to Come" provides an ideal reading for senior high school and college students, but is equally appropriate for interested adults. A teacher's guide is available at no charge with an order of the booklet. ($2.00 per copy; two or more, $1.75 each.)

world food news

The world grew more cereal grains in 1982 than in any previous year, reports the Food and Agricultural Organization (FAO) of the United Nations. World cereal production totaled 1,553 million metric tons in 1982, an increase of 40 million tons over 1981.

Aggregate food production in low-income, food-deficit countries, including China, rose last year by 5 million tons to 489 million tons. Without China, however, these countries showed a decline in output of 5 percent.

Developing countries as a whole, with three-fourths of the world's population, accounted for only 20 percent of the total increase in cereal production in 1982.

The food supply situation in the low-income, food-deficit countries in Africa in particular remains extremely serious, according to an FAO report.

The main reason for the poor harvests in Africa last year was widespread drought. Twenty countries in the region suffered from severe food shortages with about half of them also recording successive bad harvests. In all of the low-income, food-deficit countries south of the Sahara, cereal output declined 6 percent absolutely and 9 percent on a per capita basis last year. In 17 countries, harvests were poorer in 1982 than in 1981. These countries make up more than one-third of the region's total population.

Prospects for 1983 are no brighter. Weather conditions for major crops continue to be unfavorable in many countries and these same countries also have financial difficulties which limit their ability to import food.

On the subject of fertilizers, an FAO commission has urged increased fertilizer aid to developing countries to help them boost agricultural production and lessen dependency on food imports.

The FAO Commission on Fertilizers also expressed concern that total consumption of nitrogen, phosphate and potash fertilizers dropped by 1.1 percent in 1981/82. The largest drops were in North and Latin America.

Recession-induced foreign exchange shortages are assumed responsible for the sharp 15.3 percent plunge in fertilizer consumption in Latin America. Of major concern is the minimal increase of only 0.4 percent in Africa, whereas other developing countries, particularly in Asia, were able to maintain a reasonable increase in fertilizer consumption.

World production of fertilizers declined in 1981-82 by almost 4 percent to 119.7 million tons from 124.6 million tons in 1980/81. The largest decline was in North America and Europe and was attributed to various causes, including abundant harvests which discouraged further efforts to increase food production.

The Commission recommended various steps to increase fertilizer consumption and production in developing countries, including the strengthening of FAO's International Fertilizer Supply Scheme (IFS) for providing poor countries with mineral fertilizers. ☐

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small state capitals reflect. One common thread is that rural counties have traditionally controlled state politics in the U.S. Perhaps the location of the state capitals most often reflects the political predominance of the agricultural or small-town "upstaters" or "downstaters" who were leery of the influence of big cities. In the case of New York, the first such political division revolved around the issue of the ratification of the U.S. Constitution. The majority anti-Federalist convention delegates from the north were pledged to its defeat, but the urban-oriented Federalists ultimately prevailed, and President George Washington was inaugurated in New York City in 1789.

New York City served as the nation's capital from 1785-1790 and as the state capital from 1784-1797. In 1797 the state capital was moved upstate to Albany, the oldest city in the state and a port on the Hudson River. Most importantly, Albany was centrally located.

Another factor in the selection of state capitals, then, was geographic centrality. Evidence that this was important is present in a map of the U.S. In 25 of the 35 states whose capitals are not largest cities, the capital represents a more centralized location within the state than the largest city.

Alaska is one of the exceptions in this regard. Anchorage, the largest city is more centrally located than Juneau, the capital. In the mid-1970s, Alaskans voted to move the capital from Juneau to a town near Anchorage called Willow. The advantages of a central location, however, did not outweigh the cost of moving the capital. In 1978, Alaskan voters rejected the bond issue that was to have financed the move, so the town of Juneau, population 19,528, remains the capital of Alaska.

Whatever the particular circumstances that bestowed each state capital with such a status, the operating principle in the U.S. seems to have diverged from that of the Old World. While capitals of the past represented a glorification of great cities as bastions of the progress of civiliation, capitals in the U.S. seem to play a balancing role between major cities and the rest of the state. ☐

Vital Statistics Update

Provisional Statistics for the U.S. for 1982

12 months ending with December

Item	Number 1982	Number 1981	Rate 1982	Rate 1981
Live births	3,704,000	3,646,000	16.0	15.9
Deaths	1,986,000	1,987,000	8.6	8.7
Natural increase	1,718,000	1,659,000	7.4	7.2
Marriages	2,495,000	2,438,000	10.8	10.6
Divorces	1,180,000	1,219,000	5.1	5.3
Infant deaths	41,700	42,700	11.2	11.7
Population base (in millions)	...	. .	231.5	229.3

Source. Monthly Vital Statistics Report (Vol. 31, No. 12) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Publishers may address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 2213 M St. N.W., Washington, D.C. 20037.

POPULATION POLICY IN WESTERN EUROPE: Responses to Low Fertility in France, Sweden, and West Germany, by C. Alison McIntosh. Armonk, New York: M.E. Sharpe, 1983. 300 pp. $32.50 hardback. ISBN 0-87332-226-6.

This book looks at the different responses of three governments to prolonged subreplacement fertility. In examining these population policies, which are often the reverse of what would be expected when only demographic trends are considered, McIntosh suggests that there are perceived social and economic consequences which influence policymakers. She hypothesizes that governmental attitudes are influenced by the imagined effects of population on national power and economic well-being. Furthermore, she suggests that a government's legitimacy and willingness to intervene in citizens' reproductive decisions are determining factors of population policy.

The extensive research is based on statistical material, personal interviews with policymakers, and on government and academic publications. Using an interdisciplinary approach, McIntosh provides us with a historical perspective on contemporary policies and problems. This book is a well-written addition to the studies of population stabilization and decline in developed countries.

—Barbara Wyckoff

WOMEN AND POVERTY IN THE THIRD WORLD, edited by Mayra Buvinić et al. Baltimore, Maryland: The Johns Hopkins University Press, 1983. 329 pp., $29.50, hardcover; ISBN 0-8018-2681-0.

These micro-economic studies undertaken in different countries focus on women's double role in production and reproduction in poor economies. Market income is only one part of the total income picture in developing nations; the contribution which children and women make to the household has been generally neglected or understated. Time-use studies demonstrate that the typical woman spends time not only in the labor market but also in home production.

Buvinić stresses two issues of conceptualization about women in development: First, the magnitude of women's poverty; second, the measurement and valuation of their productive work in the home and in the market place. Nadia H. Joussef et al. look at the phenomenon of women-headed households and the shortcomings of existing census data and variations in definitions of terms. Official data collection techniques are not well suited to capturing women's irregular work activities.

Common to most of the studies is the finding that household analysis helps to reveal sex differences which show increased incidence of poverty among households headed by women. Elise Boulding lucidly sums up concerns to policymakers with a reminder that statistics serve planning purposes and that the creation of indicators in itself is a political act.

—Alex von Cube

STATISTICAL ABSTRACT OF THE UNITED STATES 1982-83, National Data Book and Guide to Sources (103d edition), U.S. Bureau of the Census, 1,008 pp. $11.00 paperback, stock Nr. 003-024-05010-2. Superintendent of Documents, U.S. Government Printing Office or U.S. Department of Commerce District Offices.

The **Statistical Abstract**, first published by the Census Bureau in 1878, contains extensive statistics on population, plus voluminous summaries of data on social, political, and economic facets of the U.S.

In short, you can find everything in this book from the per capita consumption of shelled peanuts in 1981 (6.1 pounds) to a table on endangered species, to the number of barbers in the U.S. (who might themselves be considered on the aforesaid table; in 1972 there were 157,000 such practitioners, while in 1981 the number was down to 107,000).

The **Abstract** includes 93 new tables, as well as summarized 1982 election results and of course, much information gleaned from the 1980 Census. This year, as ever, this valuable compendium is one of the most informative, concise sources of U.S. statistical information available.

—Alex von Cube

POPULATION PROBLEMS AND FAMILY PLANNING IN FIVE COUNTRIES: A Transcultural Reconnaissance. Japan, Egypt, Puerto Rico, Bangladesh, Kenya, by M.J. Diepenhorst C.S. Amsterdam: Royal Topical Institute, 1982. 228 pp. $10.00 paperback.

In this book, M.J. Diepenhorst provides an overview of the research pertinent to family planning efforts in five countries. Each country analysis includes a concise political, economic and geographical background, as well as an exploration of the effects of religion, socioeconomic factors, and culture on the acceptance and effectiveness of population policies. The author also examines specific population problems, such as abortion in Japan and the use of sterilization in Puerto Rico. Diepenhorst hesitates to draw conclusions, but when he does, they are sound and well substantiated by empirical evidence.

—Barbara Wyckoff

CURRENT ISSUES IN NATURAL RESOURCE POLICY, edited by Paul R. Portney. Baltimore, Md: The Johns Hopkins University Press, 1982. 300 pp. $27.50 hardback, $9.50 paperback. ISBN 0-8018-2917-8.

While the title may not be lively, this volume from Resources for the Future, Inc. deals with vital issues in a way that will interest its intended audience: policy- and lawmakers, business and environmental groups, citizens, and students. Though written by economists, the language is surprisingly understandable (a tribute to the editor?), and the perspectives multidisciplinary. Eight chapters, each by a specialist in the field, deal with the following topics: public lands, nonfuel minerals, endangered species, marine fisheries, the global climate, water supplies, agricultural land, and private forests.

Of particular interest are the chapters on the future of endangered plants and animals and threats to the global climate. As the introduction points out: "All of the topics discussed in this book are affected by society's economic activity, but none more so than climate and species diversity—and none has a greater potential for irreversible and far-reaching consequences." The first chapter, by editor Portney, is an excellent overview of problems and recommended policies.

—Elaine Murphy

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INTERCOM

the international population news magazine

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Hispanics Gradually Changing the U.S.'s Demographic Face

by Jean van der Tak

Hispanics, counted at 14.6 million and 6.4 percent of the total population in the 1980 U.S. Census, could increase to some 47 million and displace blacks as the largest U.S. minority by 2020, say the authors of PRB's *Bulletin* for June, "U.S. Hispanics: Changing the Face of America."

That projection, however, assumes that immigration to the U.S. will continue at the recent estimated level of about 1 million a year—a scenario likely to change if the Simpson-Mazzoli immigration bill passed by the Senate in May and now pending in the House of Representatives is signed into law and forcefully implemented. As passed by the Senate, the bill calls for an annual immigration ceiling of 425,000 overall and 20,000 per country (40,000 apiece for Mexico and Canada), not including refugees (for which quotas will still be set annually by the President and Congress), and stiff penalties for employers who knowingly hire illegal aliens.

Hispanics accounted for 42 percent of legal immigration to the U.S. by the late 1970s, according to the Immigration and Naturalization Service, slightly ahead of Asians at 39 percent. And they are probably the large majority of an estimated 3.5 to 6 million illegal immigrants currently in the U.S., with 50 to 60 percent from Mexico alone, say *Bulletin* authors Cary Davis and Carl Haub of the Population Reference Bureau and JoAnne Willete of Development Associates, Inc.

They point out that Hispanics' growing predominance among immigrants now has all the more impact on the makeup of the U.S. population because, with fertility on the decline, immigration currently accounts for close to half of the country's annual population growth. However, they estimate that immigration accounted for only a third of the increase in the Hispanic population itself between 1950 and

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EDITORIAL STAFF
Editor: Arthur Haupt
Consulting Editors: Patricia Cancellier, Elaine Murphy, Jean van der Tak, Robert P. Worrall
Demographic Editor: Carl Haub
Book Review Editor: Janice Beattie
Demographic Analysis Consultant: Leon F. Bouvier
Assistant to the Editor, INTERCOM en español: Mena M. Rios
Editorial Assistants: Karen Lombardi, Robert Vladova
Circulation Director: Jacki Majewski

Editorial and Circulation Offices
2213 M Street N.W.
Washington, D.C. 20037
Telephone (202) 785-4664
Cable: POPREF WASHINGTON DC

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	U.S.	All other countries
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PRB Visiting Scholar Deadline Extended

The application deadline for the 1983-1984 Visiting Scholar Award has been extended to September 30, 1983.

The award, made available under a grant to the Population Reference Bureau by the Andrew W. Mellon Foundation, provides the opportunity for mid-career demographers and population specialists to spend up to an academic year at the Bureau's Washington headquarters during which they have the opportunity to pursue their own policy-oriented research and educational interests while interacting with the Bureau's professional staff. The award provides a $2400 monthly stipend.

Interested individuals are invited to apply by submitting the following to: Visiting Scholar Program, Population Reference Bureau, Inc., 2213 M Street, N.W., Washington, DC 20037:

- an up-to-date curriculum vitae;
- a description of proposed research or educational activity emphasizing its relevance to policymaking;
- a description of how the results of the proposed activity will be utilized;
- copies of recent relevant publications or manuscripts;
- three letters of recommendation from professional colleagues.

PRB has moved to 2213 M St. N.W., Washington, D.C. 20037. The four-story headquarters building in Washington's West End area was purchased by PRB earlier this year and now houses all of the Bureau's operations. It is within walking distance of two downtown subway stations: Foggy Bottom-GWU, and Farragut North.

China Steps Up Sterilization as Population Control

In a further escalation of its population control program, China's government may have begun to require sterilization of couples with two or more children.

A directive to this effect from the central government appears to have gone out to lower officials, probably during December 1982. The matter was mentioned in a central-government circular on propaganda published in February 1983: "Permanent birth control measures [i.e., sterilization] are to be carried out among those who already have two children. Remedial measures [i.e., abortion] are to be taken as quickly as possible among those who are pregnant without quota [permission]."

Subsequently, provincial governments have published sterilization decrees, for example, the *Hebei Daily's* April pronouncement that "sterilizations will be carried out in 1983 in the province, and that the task will be basically completed during the next year for all couples of childbearing age who should undergo sterilization [i.e., couples who have had two or more children]."

UN officials contacted about the policy expressed grave misgivings about any forced sterilization policy to a *Washington Post* reporter, adding that the international organization could not assist a family planning program with an official coercive policy–the UN currently gives China about $50 million annually in population assistance. However, the UN has an "out" because important Chinese family planning pronouncements often never attain "official" status. So government spokespersons can say (as one told the *Post*) that sterilization is merely being "recommended" to couples with two or more children, and that coercion or force is not a part of the policy. However, he said that disincentives included fines or other economic penalties.

The new policy would seem to indicate that China's present one-child policy, inaugurated in 1979 and already the strictest population control policy of any nation in the world, is meeting resistance from the Chinese people. And that China's government leaders are feeling frustrated in their attempts to check their country's population growth and have seized on sterilization as the "easiest" form of fertility control.

To succeed in limiting China's population to "only" 1.2 billion by 2000 essentially requires precipitous declines in fertility. While rigorous family planning campaigns can persuade couples to begin using one contraceptive method or other, there is no way of ensuring that a couple will continue to use family planning, especially if they are ambivalent about the program. And in China, there are cultural and economic reasons to have more than one child (See INTERCOM, August 1981 and January/February 1983). With a contraceptive program, an individual must be continually persuaded, one way or other, but after an individual has been persuaded to undergo a sterilization operation, further persuasion is, needless to say, unnecessary.

The central government is serious. The actual implementation of this policy, however, is in the hands of officials lower down. And the real question is, will the bureaucracy follow through on this policy, which is bound to be controversial among the people affected by it? □

The West German census, set for April 27, 1983, has been postponed for an indefinite period, following a decision by the Federal Constitutional Court that legal safeguards were insufficient to protect citizens' confidential information.

The decision follows months of mounting protest against the census, which became a potent national political issue. The antinuclear Greens Party had charged that the $154 million census amounted to an invasion of privacy. During the early part of 1983, some 240 anticensus groups were created, sponsoring anticensus billboards and staffing hotline phones.

The census would have provided information supplementing that of the national registry system, which is adequate but not the complete system that some other European countries have. The census was originally supposed to be conducted in 1980, but insufficient funding forced its postponement to this year.

African drought causing worst famine in a decade. Newspaper accounts are now reporting a famine which could result in a death toll as bad as the early 1970s drought which is thought to have claimed 300,000 lives. The current situation has been exacerbated since this is the second drought year in a row. In hard-hit Ethiopia, Hussein Rahman of the United Nations World Food Program has indicated that, while there is probably enough food in the country for now, the problem of getting the food to the people in the interior has stymied many relief efforts. In the town of Addis Zemen, the grain warehouse is full, but there are few trucks to deliver it. The need for trucks and transport aircraft is immediate. Many farmers have had to sell their oxen and eat their seeds to survive, making the prospect for agricultural recovery even dimmer.

On June 15, 10 years after its *Roe v. Wade* decision declaring the choice of abortion as a constitutional right, the U.S. Supreme Court reaffirmed that right in a 6-3 ruling against an Akron, Ohio, ordinance. Declared invalid were requirements for a 24-hour waiting period, second-trimester abortion in hospitals only, and a ruling requiring a physician to tell a woman that a fetus is a human from the moment of conception.

Tietze Book (5th ed.) Details Hard-to-Find Abortion Data

Like its predecessors, the fifth edition of *Induced Abortion: A World Review, 1983* presents a comprehensive view of its topic, given the available data (which all too often are scarce). Christopher Tietze's 116-page reference work this time around is basically a revision of the 1981 edition, but the consistent updating of material and the care taken in scholarship still recommend this book as an effective antidote to uninformed or merely vocal opinions on any side of the abortion question.

The overall trends of abortion incidence have changed little since Tietze collected and interpreted available information in 1981: Legal abortions are still performed more frequently in urban than in rural areas; legalization of abortion has resulted in greater numbers of women using abortion services earlier in the period of gestation to avoid health risks; restriction or legal prohibition of abortion do not necessarily eliminate it. Tietze has again supplied generous helpings of statistics to substantiate trends.

Of more interest in this edition, however, are the additional research Tietze has quoted, as well as his delineations of changes large and small which are indicated by new data.

China's one-child campaign is one of the new pieces of information wedged into the volume. In China, induced abortion has become one of four "planned birth operations," the others being vasectomy, tubal sterilization, and insertion or removal of an IUD. Community pressure on Chinese women to undergo abortions is discussed briefly.

For the United States, data available since 1981 indicate significant changes in the nature and the availability of treatment. Updated information indicates that, by 1980, 4 percent of all legal abortions reported were taking place in doctors' offices, with 74 percent in nonhospital facilities (clinics) and 22 percent in hospitals. Tietze's previous edition had data only as recent as 1978, reflecting a 75-25 split between clinics and hospitals, with no mention of abortions in the physician's office.

Facilities for abortion also continue to become more available in the U.S. By 1978, no public hospital was providing abortion services in eight states. By 1980, the same claim could not be made for any state, though 17 states had abortion facilities of some kind for less than half the women at ages 15-44.

Internationally, the proportions of countries allowing abortions under varying, legally prescribed circumstances are virtually unchanged since Tietze's 1981 report. Ten percent of countries for which data are available are prohibiting abortion without exception. Eighteen percent are allowing abortion only to save the life of the woman. (Many Asian Muslim countries, two-thirds of countries in Latin America, most countries in Africa, and the European countries Belgium, Ireland, Malta, Portugal, and Spain are members of the above two categories.) Twenty-five percent of the world's countries, including India, the United Kingdom, Japan, and Eastern European nations, are permitting abortions based on "social factors," without reference to the health of the woman. Thirty-nine percent of the world's countries, including the United States, the USSR, and China, allow abortion on request without specification of reasons.

All the legal prescriptions implied above depend upon specific countries' legal definitions of conception, fetal development, and abortion. In this edition of *Induced Abortion,* Tietze makes it very clear that the current legal usages leave much to be explored. For example, "menstrual regulation," a suction curettage technique limited to the first two weeks after a missed period, serves as a contraceptive technique in countries where abortion is otherwise prohibited, yet the countries' own definitions of pregnancy termination leave room for doubt about who is eligible for the technique and why.

As he has indicated previously, Tietze again writes that demographic generalizations about the effects of abortion policies cannot be made: "The only fully predictable result of changes in abortion policy is their effect on the number of legal abortions... liberalization of policy is invariably followed by an increase in the number of legal abortions ranging from quite minor, as in Sweden in 1975, to spectacular, as in Czechoslovakia in 1958; conversely, adoption of a restrictive policy results in a decline." ☐

Copies of *Induced Abortion: A World Review, 1983* (5th ed.), by Christopher Tietze, are available for $6 each from the Population Council, One Dag Hammarskjold Plaza, New York, N.Y. 10017.

India's Prime Minister Indira Gandhi and China's Minister of the State Family Planning Commission Qian Zinghong have been named as winners of the UN Population Award for their contributions to understanding of population issues.

The award, which is being given for the first time, was decided by an award committee with representatives from 10 countries, and consists of a diploma, a gold medal, and a monetary prize of $12,500 to each winner. The awards will be presented at the UN General Assembly in New York in September.

U.S. population gains 6.7 million since Census. On April 1, 1983, the Census Bureau estimates that total U.S. population including armed forces overseas, stood at 233,736,000, an increase of 6,675,000 over the April 1, 1980 decennial Census. During March 1983, there were 310,000 births and 178,000 deaths in the U.S., resulting in a natural increase of 132,000; to this was added net legal immigration of 38,000.

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PAA Congregates in Pittsburgh for Annual Meeting

The Population Association of America held its annual meeting April 14-16 at the Pittsburgh Hilton in Pittsburgh. There in the Steel City's Golden Triangle, a stone's throw from the confluence of the Allegheny and Monongahela Rivers, over 800 participants gathered to talk shop, trade resumes, and attend a record 67 sessions, including those summarized at random below:

Psychosocial Workshop. Organized by Peri Namesow and Michele Shedlin of Columbia University, the two-day, pre-PAA "Psychosocial Workshop" marked the 11th annual gathering of psychologists and others who focus on the variety of human motivations underlying population statistics. This year's meeting followed the traditional format: brief presentations of ongoing projects followed by sessions devoted to particular themes.

In a session on "Factors Affecting Chastity and Abstinence in Adolescence," John Billy (University of North Carolina) reported on research that found that black female adolescents tend to *acquire* friends with similar sexual behavior while white female adolescents are *influenced* by their friends' sexual behavior. Dudley Poston (University of Texas) aroused great interest with his study suggesting that the World Fertility Survey underestimated the extent of childlessness in 65 countries by taking at face value the responses made to interviewers. Childlessness in many developing countries is considered a matter of shame and anguish to married women.

In one of the liveliest sessions, "Ethical Issues of New Reproductive Technologies," Warren Miller (American Institute for Research) called for a new vocabulary that would include not only "contraception" but "proception" or "progenesis": behavior designed to promote conception or to achieve or prevent certain characteristics in offspring. Among them are selective marriage—to avoid, for example, a genetic disease carrier, selective abortion after amniocentesis, artificial insemination and surrogate motherhood.

Lawyer Steve Isaacs, author of *Population Laws and Policy*, raised legal and ethical questions about artificial and in vitro fertilization. Should an unmarried couple be able to have artificial insemination? A single woman? Should the child be able to find his "real" father, i.e., the sperm donor? What if the parents of a child born from artificial insemination become divorced; can the husband deny child support on the basis of not being the "real" father or can the mother deny him visitation rights? If a surrogate mother changes her mind and decides not to give up the baby, who has legal claim to the child?

APLIC. The 16th annual conference of the Association of the Population/Family Planning Libraries and Information Centers/International was held April 12-14 in Pittsburgh. There, Dr. Susan Pasquarella of the Center for Population and Family Health at Columbia University was elected APLIC President.

Two sessions were held on the future of information management. The possibilities ranged from the ultimate in total computerization of libraries (such as the glittering facilities described for PPG Industries) to small computers for small libraries. A course on migration was given at the meeting by Robert Gardner (East-West Center, Honolulu, Hi.). Progress was reported on the continuing project to develop an APLIC membership national union list of periodicals.

This year APLIC members attended from population libraries in five countries.

PAA Sessions

Demography of Underclass Population. The "underclass," according to Richard Nathan and Emmeth Carson (Princeton University) are characterized by five points. They (1) have low earned income, labor force participation and education; (2) stay in this state for a long time and sometimes pass it on to the next generation; (3) are not homogenous, but consist of several subgroups; (4) exist in both rural and urban areas; and (5) have white, black and Hispanic members. Douglas Glasgow and John Reid (Howard University) reported that there are now eight cities with 100,000 or more blacks. Blacks have made gains over the decades but the economic and health differences between blacks and whites remain large. Blacks represent 11 percent of the population but over 20 percent of the unemployed; over 30 percent of black families fall under the poverty line. Martha Hill (University of Michigan) found in a longitudinal study that contrary to common thought, welfare dependency is not transmitted from one generation to the next. Only 4 percent of those on welfare had grown up in households where welfare accounted for 50 percent or more of income.

Mary Corcoran (University of Michigan) reported that over a 10-year period, one out of four people will be poor at some time, but only 10 percent of them will be poor for an extended time. Among these chronically poor, one-third are elderly, three-fifths are black, three-fifths are women. Close to two-fifths were either handicapped or dependent on a handicapped person. Two-thirds of the long-term poor are from the South and one-fifth live in larger cities.

photos by Art Haupt

The corridors outside the sessions were busy.

Population Resource Interactions in Developing Countries. Robert Repetto (Harvard University) in discussing the role of population growth in environmental and resource deterioration in developing countries emphasized that population growth is only one of many factors. Others include a tendency on the part of some governments to turn natural resource assets into cash as fast as possible, land holding patterns and commercialization. Repetto asserted that for the most part "The Tragedy of the Commons" is a myth because for centuries in Europe the commons worked quite well. Chair Ronald Ridker (World Bank) responded that a Darwinian principle might apply: those commons that survived obviously did well, but others, perhaps under the pressure of population growth, probably did not survive. Also, population growth, commercialization and cashing in of assets are not truly independent variables.

Douglas Barnes and Julia Allen (Resources for the Future) noted that countries with the highest rates of population growth had the highest rates of deforestation, but that "population growth" is an aggregate catch-all term representing agricultural expansion, fuel needs (charcoal), and housing needs. Commercialization also means roads through virgin forests which accelerate the rate of deforestation.

Fertility Trends and Prospects in Developing Regions. Richard Osborn (Johns Hopkins University) analyzed fertility

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change in Thailand, noting that while there has been a significant fertility decline from the 1960s to 1980, it is not shared by all segments of Thai society. Urban-rural and socioeconomic differences remain as well as inequities in the distribution of services. The $68.5 million World Bank Accelerated Family Planning and Health Project, begun in 1979, addressed these inequities by applying "excessive inputs" to disadvantaged provinces.

Cynthia Lloyd (United Nations) described the UN's assessment of the contribution of the World Fertility Survey to Understanding Fertility: for about one-third of the countries, the WFS provided added information and insights into fertility declines. WFS data were deemed inadequate for three to eleven countries depending on the variable looked at (e.g., recent births or age-specific fertility rates).

Judith Banister listens to Dudley Kirk.

Parker Mauldin (Rockefeller Foundation) described "Levels, Trends, and Prospects of Fertility in Developing Countries." There is consensus that fertility has fallen appreciably in many countries in Asia and in Latin America, and hardly at all in Africa. Population growth rates remain high because mortality has continued to decline except in a few areas, although the rate of mortality decline may have lessened recently. Population data in many, perhaps most, less developed countries are inadequate, although surveys such as the WFS and contraceptive prevalence surveys augment our knowledge. Mauldin, in reviewing the United Nations' medium variant projections, stated that in those countries where fertility has already begun to decline, it is quite feasible that the medium variant will be realized. However, for those countries where fertility has not yet started to decline, he said "I share the hopes, but not the expectations, of the United Nations." Even if the UN projections are consistent with reality, there is enormous population growth ahead.

Immigration Policies in Industrialized Regions. At this session, chaired by Monica Boyd (Carleton University), Gordon DeJong (Pennsylvania State University) and Ricardo G. Abad (Ateneo de Manila University) examined how the family reunification provisions of U.S. immigration law affect the level of immigration from the Philippines. Between 1970 and 1979, there was a tripling in the number of immediate family members not subject to numerical limits, and a doubling coming under family preference categories. Guillermina Jasso and Mark R. Rosenzweig (University of Minnesota) examined U.S. immigration law and its effects on illegal aliens' tendencies to naturalize. Those without kin who must undergo labor certification and those with prior residence in the U.S. as well as those who came from the Eastern Hemisphere were more likely to naturalize than were others.

Daniel Kubat (University of Waterloo) examined immigration policy in France since 1974 as it reflects differences between conservatives and socialists. The conservatives were characterized by a "get-tough" policy, especially as regards return migration, whereas the socialists at least appear to steer a more liberal course.

Christopher Taylor (Employment and Immigration, Canada) looked at Canadian immigration policy as it has evolved over the past five years. He examined the long-run impact of below-replacement fertility and continued positive immigration through the use of an ISOPOP model, and the politically sensitive problems that may result, particularly with family and relative sponsorship.

Recent Directions in Nuptiality Research. Robert Schoen and John Baj (University of Illinois at Urbana-Champaign) reported on their construction of marital status life tables for male and female cohorts born from 1888 through 1945, for five countries: the U.S. Belgium, England and Wales, Sweden, and Switzerland. Their tables and graphs showed substantial similarities in cohort trends ever marrying, mean ages at first marriage, and proportions of marriages ending in divorce, regardless of country, with a suggested end to the trend toward higher proportions ever marrying, but no end in the strong upward trend in divorce.

Thomas J. Espenshade (the Urban Institute) examined U.S. black-white differences in marriage, separation, divorce, and remarriage 1940-1980. These differences are many, and include evidence that black women marry for the first time at an older age than do whites, and that blacks have a much longer separation before divorce than do whites. Espenshade employed a multiple increment-decrement table structure that included separation periods as well as well as divorce and widowed periods, and that discriminated between second and subsequent marriages (and their possible separation and divorced periods).

Health-Morbidity-Mortality Interrelations. Stephen H. Kan (University of Illinois at Chicago) and John E. Brockert and Marvin I. Levy (Utah Dept. of Health) reported on their analysis of 1968-1978 occupational mortality data that have been collected in Utah as a result of funding from the National Institute for Occupational Safety and Health. They analyzed data for two groups: farmers and farm managers; and farm workers and foremen; and found mostly similarities in patterns of cause of death, but some differences (e.g., the proportional mortality rates for site-specific neoplasms for the former group are below unity, but higher than unity for the latter group).

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The bulletin board was Communications Central.

Mortality Trends and Prospects in Developing Regions. Barbara S. Mensch et al. (University of Pennsylvania) analyzed child mortality differentials in 15 developing countries and found that a mother's education is a significant predictor of child mortality, essentially independent of a country's level of mortality, or whether the family lives in an urban or rural area, etc. An additional year of mother's schooling was found to reduce child mortality by 2 to 4.5 percent in most countries. Eduardo E. Arriaga and Peter O. Way (U.S. Census Bureau) examined data from Sri Lanka for 1962-1964 which seem to indicate differentially higher female mortality on tea estates as opposed to elsewhere.

Economic and Sociological Frameworks in Fertility Theory. This session drew a standing-room-only audience eager to hear four heavyweights (moderated by a fifth) discoursing on one of demography's perennial bread-and-butter issues: i.e., just how (and how predictably) do economic and social factors affect fertility?

Gary S. Becker (University of Chicago), an economist, invoked traditional economic approaches: rise in cost of children should result in decrease in number of children; good economic times should result in higher fertility than bad times, etc. But he acknowledged that rationality and market analysis do not necessarily explain demographic trends. He concluded that the economic approach could be a valuable tool in understanding fertility; but it would work better if it took into account intergenerational linkages.

Arthur A. Campbell (National Institutes of Health), a sociologist, took the sociological view—"explaining social facts with social facts." Factors affecting fertility in this view included changing attitudes toward sexuality, divorce, and family size. Finding a pattern in these factors was the challenge to sociologists.

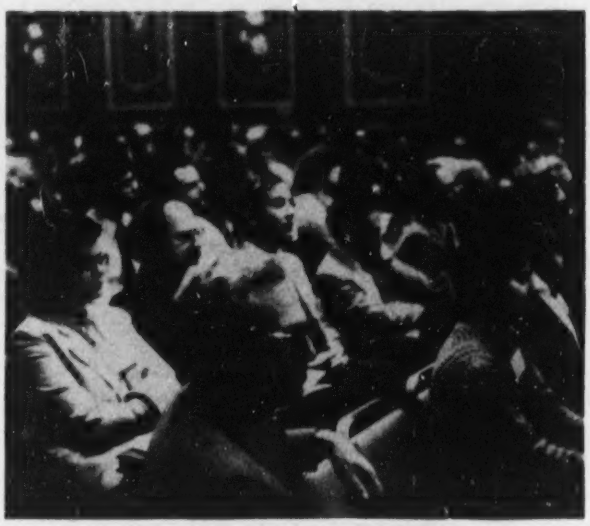
Richard A. Easterlin (University of Southern California) put the fertility question in economic terms: Demand for Children minus Supply of Children. (The greater the "excess" the greater the perceived burden.) With the help of a typically Easterlin handout with statistics from rural Karnataka, India, he showed how women's fertility and increasing survival of infants there appeared to increase the theoretical supply of children per family from 1951 to 1975; how demand for children declined; how this difference increased the burden; and finally (and seemingly predictably) how the new potential burden resulted in a greater percentage of women controlling their own fertility.

Ronald Freedman (University of Michigan) commented that we don't know the determinants of fertility very well. Economists, he said, analyze how choices are made, while sociologists are there to explain that the choices never actually existed; at any rate, socioeconomic variables surely affect fertility by affecting the family one way or other. It's interesting to note fertility trends that happened independently of economic trends or counter to official policy; for example, historic trends in withdrawal or abortion in Europe.

Samuel H. Preston (left) receives the Irene Taeuber award from Ronald Freedman.

Kingsley Davis (Stanford University) who was the moderator, jokingly commented at the end of this variegated session that there had been "too much consensus."

Political-Demographic Interrelations in Third World Areas. Taking an ecological perspective on the process of population planning, Gayl Ness (University of Michigan) developed a case that it is the politically strong, development-oriented Third World states, capable of national planning and monitoring, that institute effective antinatalist policies. Judith Banister (U.S. Bureau of the Census) presented a comprehensive description of the Vietnamese population over the last half-century, including details on the current distribution, composition, and vital rates. This effort provides a convenient reference to fill a considerable gap in population information. The paper by Myron Weiner (Massachusetts Institute of Technology) contrasts government influence over migration to Western Europe, the U.S., and the oil-rich nations of the Middle East. Despite considerable differences in stance, the outcomes—long-term dependence on outside labor and growth of migrant institutions—are similar. Paul Demeny (Population Council) served as discussant, summarizing and interrelating the papers while probing for conceptual and methodological problems.



Feminist Perspectives in Household Decision-Making Models, 1983. This was designed to explore the changing status of women. Glenna Spitze (SUNY Albany) presented findings on the effect of a wife's employment on her family's probability of migrating, taking account of age, income, employment status, job satisfaction and sex-role attitudes. There is evidence that increasing levels of female labor force participation may inhibit migration, especially among young couples. Looking at the other end of the migration decision, Joan Herold (University of South Carolina) found that the effect of migration on wives' employment varied by job type, it being more difficult for professionals and industrial workers to reenter the labor market than for secretaries, sales clerks and other women in traditionally female occupations. Linda A. Jacobsen (University of Wisconsin) discussed women's investment in education and training, and particularly its timing with respect to marriage and childbearing. She presented evidence that a large proportion of young women invest continuously in career advancement despite lifecycle interruptions, countering economists' assumptions about women's investment patterns which are said to result in lower earnings for women than for men. Discussant Karen Oppenheim Mason (University of Michigan) remarked on the need for new data and better indices of decision-making power within the family.

Population and the Private Sector. Cheryl Russell (American Demographics) reported that only 35 percent of a sample of 105 corporate users of demographic data had had at least one graduate course in demography. These results point to a communication gap between academic demography and the private sector which needs to be bridged.

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demographer's page

Carl Haub is Director of PRB's Division of Demographic and Policy Analysis.

What Do We Know About Future Population Growth?

by Carl Haub

Or, as the title might better read, what *can* we know? The eventual accuracy of population projections depends on so many variables that the demographer who sets out to run them must always remain wary of putting too much faith in the results.

Projections, as demographers never weary of saying, are not *forecasts* of the future *per se*, but simply scenarios of what a population's size *might* be and its age-sex composition *could* look like under a given set of conditions. Before a demographer proceeds with a projection, a few pertinent questions must be answered. What will the future course of the birth rate be? Constant? Falling slowly? Rising? Likewise, what will the future trend of life expectancy be and how will migration affect a country or area's future? In fact, nearly all that we can ascertain about the future size of any population depends on how well our foresight can approximate answers to these questions.

We do not know, of course, what the pattern of future birth rates and death rates will actually be. If we did, projections would not be projections but clairvoyant views of the future. Instead, we try to make educated guesses (which demographers prefer to call assumptions). Let's look at how this process might work when we wish to make an assumption on future birth rates, a crucial component of any projection.

For example, suppose one wishes to project the future birth rate of a country with high fertility and an essentially agrarian economy, the classic preindustrial condition. In this particular country, the government does not view population growth as problematic and contraceptive use is negligible. How does one go about the task of incorporating a fertility assumption for this country?

In practical terms, the issue revolves around the question of just when a country with high or moderately high fertility will reach *replacement level,* i.e., an average of about two children per couple. (Since the two children will replace their parents but no more, population growth will ultimately taper off and then stabilize.) In general, it is thought that, as a country develops economically, its birth rate will decline as a part of the modernization process and, at some point, reach the replacement level. This theory is certainly not unreasonable given the experience of many developed countries of Europe, North America, Japan, and others. Yet applying that general model to a wide variety of countries with very different social, ethnic, economic, cultural, and political backgrounds is another matter entirely.

A demographer must assume *something* about future birth rates in order to make projections. But debate continues on just what effects further social and economic development will have on fertility in different countries. Some might argue that it is a questionable assumption that some countries will ever reach replacement level. Secondly, the timing of any fertility decline exercises tremendous leverage on eventual population size. Thirdly, it is quite possible for fertility even to *rise* in many less developed countries as disease-caused infertility is reduced. And what assumption does one use for the many more developed countries whose fertility is well below replacement?

There are, of course, other factors involved which further complicate the assumption process. While it may make sense to assume all countries' life expectancy will gradually increase along with health conditions, there is unfortunately no certainty that this will actually happen. Migration can often pose a problem since migration streams often react to economic conditions or political pressures without warning. Finally, projections rarely try to incorporate large-scale disasters into their assumptions. Thus, mortality caused by calamities such as floods, wars, famines, and epidemics find no place in projections owing to their unpredictable nature.

While much of this may seem relatively obvious, i.e., that projections will miss the mark insofar as their underlying assumptions are wrong, just *how much* difference the assumptions can make may not be so obvious.

In order to illustrate this point, let us use the example of Africa, as projected by the United Nations Population Division. The UN has issued its well-known assessments of world population since 1950. In 1978, the seventh of this excellent series of detailed projections published "ultimate" population sizes of the world's major regions in the three customary series, the High, Medium, and Low Variants. The High Variant assumes the slowest fertility decline of the three.

Under the three assumptions, world population size would ultimately stablize at somewhere between 8 to 14 billion near the end of the next century, up from today's 4.7.[1] In order to show these projections in perspective, the UN also gives a constant fertility variant, which assumes that current birth rates remain unchanged. Under this assumption , world population growth reaches the 150 billion mark by the early part of the 22nd century!

The example of Africa shows in dramatic fashion the effect of different assumptions of the pace of fertility decline (see table). While no one can predict future African fertility levels, some assumptions must be made in order to project future populations. UN projections assume (based on Africa's social and economic development) that the continent's fertility will drop to replacement level anywhere from 2030 to 2070.

Supposing that it does, what then? It is one thing to select a 40-year period in which replacement level fertility is attained, but quite another to say in what year. But what year Africa does reach replacement level fertility is of enormous importance as far as its eventual population is concerned. Between 2030 and 2070 the difference is 2 *billion* people, that difference alone being four, times the continent's present population. Similar conclusions can be reached about other major regions. South Asia may cease growing at anywhere from 3.1 to 5.8 billion if replacement is reached between 2020 and 2050; Latin America would not reach 1 billion, stopping at about 0.9 billion if replacement is reached in 2010, but would grow to 1.7 billion if the process takes until 2050.

Projections, then, are not forecasts of future populations but serve as a powerful analytical tool which allow us to evaluate the likelihood of one prospect, vis-a-vis the other. There is always the tendency when three different alternatives of any future issue are offered, to ignore the highest and lowest, casting them aside as "extremes." With projection series such as the UN's, it is probably unwise to look only at the Medium variant (the "happy medium"), when the High and the Low may be just as likely. ☐

References

1. United Nations Population Division, Long-Range Global Population Projections, based on data as assessed in 1978, ESA/P/WP.75. New York: August 1981.

Africa: Ultimate Population Size and Year of Attaining Replacement Level Fertility, as Projected in the 1978 United Nations Assessment

	Population (billions)	Year Attained	Year Replacement Fertility Attained
Present (1983) population	0.5		
Projected ultimate size:			
High Variant	3.4	2130	2070
Medium Variant	2.2	2110	2050
Low Variant	1.4	2080	2030

Source. UN, 1981.

Population Aid to Increase?

Will population aid rise? On May 5, the Senator Foreign Relations Committee approved the FY1984 security and development assistance bill, including $232.1 million for international population programs. Earlier, the House Foreign Affairs Committee had approved its own foreign assistance bill with $275 million for population programs.

These figures would represent a significant increase over FY 1983's $211 million actually appropriated. But it's still early in the legislative year. The House and Senate bills must still be passed by the respective chambers, and then be reconciled in conference (not to mention being signed into law by President Reagan, whose budget authorizes $211 million for population assistance). Like the current law, the bill earmarks 16 percent or $38 million, whichever is less, for the UN Fund for Population Activities.

An appropriations bill containing the actual funds must also be passed. And it's possible that history may repeat itself, and for the 5th straight year Congress fails to pass a new foreign assistance bill, and instead opts for a last-minute continuing resolution that simply gives another year of foreign assistance at the previous year's levels (in this case, $211 million). This has been the result in three out of the last four years.

Nevertheless, the new bills do represent an expression of interest in population by a core group of legislators, an interest that may yet result in higher funding levels for population assistance. ☐

Drawing by P. Steiner from *Science 83.* Reprinted by permission.

"They tell me you're a demographer. Whatever happened to Fred Biddlingmeyer?"

Continued from page 7

Demographic Impacts of Labor Migration in LDCs. An analysis of 1981 census data for Bahrain by Maurice D. Van Arsdol, Jr. (University of Southern California) revealed that net migration, mainly of Arab, Asian and European workers, accounted for over half the country's 4.5 percent growth rate for the 1970s. Fully one-third of the Bahraini population was foreign born in 1981. By contrast, a study in the Sudan focused on emigration and the resulting labor shortage. Ellen Percy Kraly (Hamilton College) discussed an ongoing survey of the Sudanese Public Health Ministry, an attempt to provide empirical bases for a concern over a type of middle-level, technical, and administrative brain drain. A study objective was to measure the impact of emigration on public sector productivity. Finally, authors Brendan P. Mullan and Douglas S. Massey (University of Pennsylvania) presented data from Guadalupe, Mexico, suggesting that seasonal migration of the U.S. has a negative effect on fertility. Discussant Alison McIntosh (University of Michigan) congratulated the panelists for their solid, empirical work, devoid of the ideological biases common to studies of international migration.

Demography of Racial and Ethnic Groups. Rena Cheskis (Yale University) noted that blacks living in predominantly Hispanic "arcs" in New York City score lowest on all socioeconomic ratings; but even after leaving the "ghetto," blacks—unlike Hispanics—are impeded in their climb up the socioeconomic ladder. Using 1976 National Survey of Family Growth data, Craig St. John and Harold Grasmick (University of Oklahoma) found that because blacks are less likely than whites to achieve class segregation, college-educated black women tend to begin childbearing as early as their lower-class black neighbors. But these ambitious, economically pressed women, often the sole family earner, later space and terminate childbearing on a par with their white counterparts. Reports that Hispanic mortality has converged with that of whites and other groups in the U.S. are premature, said Teresa Sullivan (University of Texas.) These studies relate deaths registered by Spanish surname with the 10 percent larger Spanish-origin population data available from the 1980 census and also fail to account for under-registration of Hispanic infant deaths and other problems in pinpointing the actual mortality of Hispanics.

New Directions in Fertility Research. New data collected in contraceptive prevalence surveys indicate that accessibility does make a difference in contraceptive use in developing countries, Richard Cornelius (USAID) reported in this session, which was chaired by Donald Bogue (University of Chicago). In Costa Rica, Thailand, Colombia, Honduras, and Nepal, rural women appear willing to travel more than an hour for "clinic" methods like sterilization but pill use, which requires regular supplies, declines rapidly with increasing distance to supply sources. Urban areas, with many more family planning outlets, do not show these differences. William Mosher (National Survey of Family Growth) reported that NSFG data indicate that white Catholic/non-Catholic fertility differentials persisted to at least the mid-1970s in the U.S., contrary to much-publicized findings of Elise Jones (World Fertility Survey) and Charles Westoff (Princeton University) based on the 1975 National Fertility Study. In response, Westoff observed that his and Jones's findings were based on women still in their first marriage; when recalculated, NSF data show a differential similar to that from the broader NSFG sample and neither could be touted as "substantial."

Delayed Childbearing in the U.S. In a session chaired by Wendy Baldwin (NICHD) on this currently "in" topic, Jane Menken (Princeton) reported that delayed childbearing increases biological risks to mother and child only slightly. However, it may account for some of the rise in pelvic inflammatory disease (due to long-term IUD use) and in ectopic pregnancies, which can cause infertility, and in sexually transmitted diseases. Rather than encouraging early childbearing to avoid infertility, the best approach is to catch PID in its early stages and to urge responsible sexuality, she said. Roberta Barnes (Urban Institute) said that the current percentage of childless women "is not high by historical standards," and most of these women don't intend to remain childless. According to 1976 NSFG data, family capital assets are highest for women who delay first births past age 30, reported Sandra Hofferth, also of the Urban Institute. Among questions for research, said discussant Deborah Freedman (University of Michigan), are what professional risks women incur by taking time out for childbearing during the crucial career-building ages of 25 to 35 and the dilemmas of late childbearing for women who may then be saddled with the problems of both their young children and their aging parents.

George J. Stolnitz delivers the Presidential Address.

Factors Affecting Fertility Change in Less Developed Countries. The debate on whether socioeconomic development or family planning programs account for recent LDC fertility declines was renewed in a session chaired by Dudley Kirk (Stanford University). Donald Hernandez (Georgetown University) said his reanalysis indicates that family planning programs net of socioeconomic development account for only 3-10 percent of LDC fertility decline to the early 1970s, much less than the claimed 15-20 percent. Phillips Cutright (Indiana University) said it is social development—more education in particular—rather than economic development (urbanization, rising GNP per capita) that tips the balance toward fertility decline, along with some family planning program effort.

Teenage Contraceptive Use, Pregnancy, and Parenthood. U.S. blacks have the highest teenage birth rates and Japan the lowest among 31 developed populations Charles Westoff (Princeton) reported. Teenage birth rates rose during the 1970s in eastern and southern Europe but declined in other developed countries. According to a 1979 Chicago survey reported by Dennis Hogan (University of Chicago), sexual intercourse and pregnancy are earliest among black teenagers with single parents, five or more siblings, sisters who had a teenage birth, and little parental supervision of dating. Family planning clinic followup studies reported by Constance Nathanson (Johns Hopkins University) and Frank Furstenberg (University of Pennsylvania) suggest that inconsistent contraceptive use, and thus higher fertility, among black teenagers is also related to having few friends who disapprove of early childbearing, low perceptions of the risk of pregnancy, and lower rates of school enrollment and employment than white teenagers.

National Population Planning. In this standing-room-only Saturday morning session chaired by Leslie Corsa (University of Michigan), Makhdoom Shah (University of Hawaii) said that Pakistan's 1980-1983 family planning plan, while an improvement over earlier plans which failed to reduce fertility, still suffered from too much reliance on volunteers and overworked officials from other government departments and had set its targets "without empirical foundation." China's spectacular success in lowering fertility is evident from a 1981 survey in Xian City reported by Charles Chen (Centers for Disease Control), where delayed marriage played a role, and a survey of the same year reported by Pi-chao Chen (Wayne State University) in a rural county where the total fertility rate had fallen to 1.1 by 1980. Carole Baker (Zero Population Growth) deplored the U.S.'s continuing failure to adopt a comprehensive policy to control population growth while creating a patchwork of laws and measures that often in effect encourage growth. With several bills now before it, Congress "has choices to make on important population issues," she said, while predicting that "The magnitude of our population problems will soon force Congress, however reluctantly, to make some long-range policy commitments."

The Dorothy S. Thomas Award this year was presented by Margaret Bright, chairman of the awards committee, to Donald Lam, a student at the University of California, Berkeley, for his paper "Population Growth, Age Structure, and Distribution of Income: An Analysis Using Stable Population Theory." The Thomas award is given annually for the best paper by a graduate student (or student who has completed a graduate program within the past year) on migration or on demographic-social-economic variables; it consists of a certificate and a prize of $1500.

The Irene B. Taeuber Award is given every other year to recognize outstanding scientific research in demography, either a valuable single contribution or a record of achievement—or in this case, said Ronald Freedman (University of Michigan), "both," as he presented the award to Samuel H. Preston (University of Pennsylvania). This award consists of a certificate and $2500.

Presidential Address: "Three to Five Main Challenges to Demographic Research." On Friday night PAA President George J. Stolnitz (Indiana University) discussed a variety of research frontiers facing the demographic field. Demographic research is "flourishing" and has made great gains in the past 10 years, to say nothing of the progress since 1950. Nevertheless, Stolnitz told the membership, three fairly "macro" issues with policy implications needed further work, and in addition two methodological challenges highlighted the present state of demography's art and where it should be going.

1. *Mortality.* Stolnitz asked "to what extent can causal factors of a relatively nondevelopmental nature be tradeoffs or substitute for development in effecting the next major gains in national mortality levels?" This is the challenge, now that many countries have reached the fiscal limits of developmental changes (e.g., public health institutions) that can lower mortality. Demographers need to pay much closer attention to nondevelopmental factors; Stolnitz thinks that such factors, if identified and reinforced, have great potential for raising life expectancy and aging populations, both in less developed and more developed countries.

2. *Internal migration.* Historically "the weakest analytic sibling among the components of population change," internal migration is often of greater practical interest to governments than the usual vital statistics. Further, such migration clearly shows linkages between developmental change and demographic adaptation. Unfortunately, not only are such migration data difficult to find, but demography has been slow to develop theoretical approaches to their analysis. Because of migration's importance, it is time to pay considerably more attention to it.

3. *Fertility.* "We are still very far short of where we have long expected to be in applying demographic transition theory to quantitative applications," said Stolnitz. There are many determinants presupposed to affect fertility (e.g., old-age-security, utility of child labor), but a dearth of quantitative evidence to support those presuppositions. Unless our understanding of possible determinants increases, forecasting fertility transitions in the future is going to remain very much an arcane art.

4. *Micro/macro.* The most recent statistical revolution is the new potential for access to vast micro-level bodies of data, such as fertility determinants obtained from household surveys. The challenge is to make proper and full use of such massive data, converting it without distortion into macro-level models of a population's behavior.

5. *An overdue statistical transition.* "Demography is overdue for a rapid departure from its still standard modes of single-equation thinking" to multi-equation statistical systems, to avoid biases of interpretation and forecasting and to make it possible to develop synergistic explanations of complex situations.

Sidebars. The Pittsburgh Hilton proved to be a rationally laid-out hotel that was difficult to get lost in (though the ballroom door latches baffled some). A stone's throw outside the hotel lay the remains of Fort Pitt, a location familiar to any junior-high-schooler who had to study the French and Indian War; Pittsburgh's old downtown area; and the dominating presence of the not-quite-finished PPG Place, designed by Philip Johnson, with its massive, gothic-styled glass skyscraper.

Pittsburgh was in a pre-Spring mode, i.e., mostly gray and chilly, with a brisk wind off the water. A Pirates-Cubs game scheduled for Friday night at nearby Three Rivers Stadium was cancelled due to cold. But the many enjoyable restaurants compensated for the weather, especially those at the renovated Station Square complex across the river and on top of the bluffs (reachable by tramcar).

The various parties Thursday and Friday—Brown, Georgetown, Michigan, Princeton, Texas, etc.—were well attended. And some 20 hardy runners participated in the annual fun run, which got under way at 7 a.m. Saturday morning and looped around the Golden Triangle and over to the Stadium and back.

Fertility was well represented at this year's meeting in the shape of several babies, who accompanied their demographer mothers to sessions. This year, a record number of sessions were held six at a time, and ran well into Saturday afternoon. Long hotel checkout lines and awkward departing flight times may account for the surprisingly large number of session attendees who stuck it out till the very end.

There seemed to be more handouts at this year's sessions, though these tended to be supplementary materials, dense technical notes, or graphics rather than the actual papers, which remain elusive as ever. Even the discussants often prefaced their generalized remarks by a statement to the effect that "I'm afraid I can't comment in any detail on these papers, as I only received them at 2 a.m. this morning. . ."

That times are changing in demography was noted by Norman Ryder (Princeton University), discussant in a session on World Fertility Survey findings. "In the 35 years I've been coming to PAA meetings," he reflected, "the world's population has doubled, but the level of sophistication of the papers has gone up by a factor of four, if not eight." Thanks to the computer age, the papers are now sprinkled with impressive new terms like "proportional hazard model" and "conditional logit analysis"—some of it rather overwhelming to the uninitiated.

In particular, this was the year that everything seemed to be "proactive"—a formidible word that the dictionary says means "modified by a factor that preceded the object being modified," but which seemed to be used in many other connections . . .

Next year PAA meets in Minneapolis.

—Compiled by Janice Beattie, Lee Bouvier, Cary Davis, Art Haupt, Elaine Murphy, Linda Peterson, and Jean van der Tak.

Looking downstream to the Ohio River.

Contraceptive Sponge to Be Marketed Over the Counter

Limited marketing of the contraceptive sponge, a spermicide-permeated foam contraceptive recently approved by the Food and Drug Administration, is scheduled to start July 1 in eleven states, with national marketing planned for September.

The sponge, developed by VLI Corporation of Costa Mesa, Calif., is made from polyurethane foam and permeated with the spermicide nonoxynol-9. Shaped like a small, thick doughnut, the sponge measures two inches in diameter and weighs one-quarter ounce. The sponge functions as an effective contraceptive for 24 hours, according to VLI, and users may engage in repeated acts of intercourse during that time. By comparison, diaphragm spermicides may be used for only one act of intercourse, and the diaphragm itself must be fitted by a physician.

Because of the promised 24-hour protection and its over-the-counter, nonprescription availability, the sponge is expected to enjoy healthy sales. However, the woman interested in the most effective means of birth prevention probably will choose some other contraceptive: VLI's tests on 3,000 subjects indicated a 15 percent failure rate, which may be compared with 5 percent for the IUD, 2 percent for the pill.

The FDA reported that 3.6 percent of the women tested discontinued use of the sponge due to allergic reactions or irritation. The FDA in its April approval letter said that the sponge could not be called "highly effective" and that, while a significant health risk was not found to be associated with use of the sponge, more information would be needed to determine whether it contributes to incidence of Toxic Shock Syndrome.

On July 1 the sponge will be marketed with the product name "Today" in the states of California, Alaska, Oregon, Washington, Nevada, Idaho, Arizona, Utah, Montana, Colorado, and Wyoming. "Today" will retail for approximately $1.00 per sponge.

While the contraceptive sponge might seem like a new idea, its use may be traced back to ancient Egypt, where women used sea sponges soaked in citrus juices. ☐

Consider that special-gift problem solved. PRB has just "published" its first U.S. Data Sheet T-shirt. Silkscreened in red and blue on 100 percent white cotton, the T-shirt design features the attractive title portion of the latest U.S. Data Sheet, and bestows demographic cachet on any wearer. Available from PRB in limited quantities in men's small, medium, and large at $9.50 each, plus $1.00 handling per order.

Encouraging a Small-Family World

"Current efforts to lower birth rates are not working fast enough and are likely to become evenmore inadequate as economic growth slows," Judith Jacobsen writes in the latest Worldwatch Paper.

"Compulsion not only presents ethical problems, it runs a very high risk of failure. A variety of incentives for small families can be used instead," writes Jacobsen. And her paper "Promoting Population Stabilization: Incentives for Small Families" details what kind of fertility reduction incentives are currently being employed, as well as new approaches for the future.

These efforts vary greatly. Some governments compensate individuals for the cost of sterilization. In other programs, people receive savings accounts or pensions when they succeed in having a small family. Some programs offer grants or loans to entire villages for roads, sanitation or other improvements–if the villages lower their overall birth rates. Other programs give preference in schools, housing, health care or jobs to families with only one or two children. Although China and Singapore have the most comprehensive policies, two dozen developing countries now offer some kind of family planning incentive or disincentive.

"People have large families for many reasons," Jacobsen said, "but financial security plays a large role. Payments that encourage small families meet this need directly. Both individual and community family planning incentives have the advantage of making people more prosperous–an environment in which a small family is a good thing."

Incentive programs can be targeted to the particular cause of high fertility. Jacobsen said that in countries where people keep trying for a son, even after they have two daughters, legal reforms promoting equality of inheritance, employment and property ownership would improve chances of an incentive program's success.

"Another logical target is teenage girls. In most developing countries, many women marry and become mothers early for economic security. Paying young women to remain single and childless would both reduce their economic dependence and lower birth rates."

"Problems can be minimized by careful choice of programs, amounts of payments and counseling. But the task is not easy, and the financial burdens can be great. Governments reluctant to confront these difficulties, however, should consider the alternatives: doublings and triplings of populations already on the margin of survival."

Copies of *Worldwatch Paper* 54, "Promoting Population Stabilization: Incentives for Small Families," are available from PRB. Single copies are $2.00 each; 2-10 copies, $1.50 each; 11-50 copies, $1.25 each; 51 or more, $1.00 each. Orders and remittances should be sent to Population Reference Bureau, Inc., 2213 M Street, N.W., Washington, DC 20037. (PRB assists Worldwatch Institute in the distribution of its papers.)

Vital Rates[a] for Selected Developed Countries, 1970 and Most Recent Year Available

From time to time, INTERCOM has provided statistics summaries for selected developed countries with complete registration systems as a service to our readers. The table below contains crude birth rates for 1970, 1979 and 1981, crude death rates for 1970 and 1981, and infant mortality rates for 1970 and 1981 (as of this writing 1982 vital rates are not generally available). In some instances data availability necessitate the use of an earlier year than the column heading.

A number of interesting observations can be made. For one, in several developed countries where fertility had declined to very low levels the birth rate has either leveled off or even risen somewhat. This suggests that fertility may be seeking some stable level, but we can really only speculate on that point. On the other hand, Denmark's fertility has fallen steadily, so much so that the birth rate is now lower than the death rate; Denmark, in fact, may now have lower fertility than West Germany which had held the record previously.

Readers are cautioned that the increase in many crude death rates below do not reflect decreasing life expectancies (with the possible exception of the USSR), but rather the aging of the population. Many of the data shown here are provisional; users are encouraged to consult the appropriate publications for a more complete description of small definitional differences among the countries.

Region Country	Crude Birth Rate 1970	Crude Birth Rate 1979	Crude Birth Rate 1981	Crude Death Rate 1970	Crude Death Rate 1981	Infant Mortality Rate 1970	Infant Mortality Rate 1981
Asia & Oceania							
Australia	20.6	15.5	15.8	9.0	7.3	17.9	10.0
Japan	18.8	14.2	13.0	7.0	6.1	13.2	7.1
New Zealand	22.1	16.8	16.3	8.8	8.0	16.7	11.7
North America							
Canada	17.4	15.5	15.2	7.3	7.0	18.8	10.4[b]
United States	18.2	15.6	15.9	9.5	8.7	20.0	11.7
Europe							
Austria	15.2	11.4	12.5	13.4	12.3	25.9	12.6
Belgium	14.7	12.6	12.7	12.3	11.2	21.1	11.7
Bulgaria	16.3	15.3	14.1	9.1	11.1	27.3	19.5
Czechoslovakia	15.9	17.9	15.5	11.5	11.7	21.1	16.8
Denmark	14.4	11.6	10.4	9.8	11.0	14.2	8.4[b]
Finland	14.0	13.3	13.2	9.6	9.1	13.2	7.6[b]
France	16.7	14.2	14.9	10.7	10.3	15.1	9.6
Germany, East	13.9	14.0	14.2	14.1	13.9	18.5	12.3
Germany, West	13.4	9.5	10.1	12.1	11.7	23.6	12.6[b]
Greece	16.5	15.9	14.5	8.4	8.9	29.6	17.9[b]
Hungary	14.7	15.0	13.3	11.6	13.5	35.9	20.6
Iceland	19.7	19.8	18.8	7.1	7.2	13.2	7.7[b]
Ireland	21.8	21.5	21.0	11.4	9.4	19.5	11.2[b]
Italy	16.8	11.8	10.9	9.7	9.5	29.5	14.1
Luxembourg	13.2	11.2	12.0	12.3	11.1	24.6	11.0
Malta	16.3	16.6	15.0	9.4	8.6	27.8	13.1
Netherlands	18.3	12.5	12.5	8.4	8.1	12.7	8.2
Norway	16.6	12.7	12.8	10.0	9.9	12.7	8.1[b]
Poland	16.8	19.5	18.9	8.2	9.2	33.2	20.6[b]
Portugal	20.0	16.3	16.4[b]	10.7	9.8[b]	58.0	26.0[c]
Romania	21.1	18.6	18.0[b]	9.5	10.4[b]	49.4	29.3[b]
Spain	19.6	16.1	14.1	8.5	7.6	27.9	10.3
Sweden	13.7	11.6	11.3	9.9	11.1	11.0	7.0
Switzerland	16.0	11.3	11.5	9.2	9.3	15.1	9.1[b]
United Kingdom	16.3	13.1	13.1	11.8	11.8	18.4	12.1[b]
England and Wales	16.1	13.0	13.3[b]	11.8	11.8[b]	18.1	12.0[b]
Northern Ireland	21.0	18.2	18.5[b]	10.8	10.9[b]	22.9	13.4[b]
Scotland	16.8	13.2	13.4	12.2	12.4	19.6	11.2
Yugoslavia	17.8	17.1	16.7	8.9	9.0	55.5	30.7
USSR	17.4	18.2	18.7	8.2	10.3	26[d]	28-30[d]

---

[a] Births and deaths per 1,000 population in a given year; the infant mortality rate is the number of deaths to infants (below age 1) per 1,000 births in a given year.

[b] 1980

[c] 1979

[d] Unpublished estimate for 1980 provided by Dr. Murray Feshbach, Georgetown University, based upon recent official Soviet statements.

Sources. United Nations Statistical Office, *Demographic Yearbook*, various issues through 1981 and *Population and Vital Statistics Report* (quarterly), various issues through January 1983, and United Nations, *Monthly Bulletin of Statistics*, April 1983.

U.S. Hispanics on the Rise

Continued from page 1

1980 which they put at 265 percent – from an estimated 4 million in 1950 to the 1980 census figure of 14.6 million. Two-thirds of that growth was due to U.S. Hispanics' relatively high natural increase (births minus deaths).

Who They Are

Hispanics as a group barely existed in U.S. statistics prior to the 1970s, the authors observe. The newly invented term is now most often taken to refer to persons who identify themselves as of "Spanish origin" in response to a question first used by the Census Bureau in the 1970 census, revised and repeated in the 1980 census, and now also used in the Bureau's Current Population Survey, the primary source of population information between censuses.

The catchall term covers Mexican Americans (60 percent of Hispanics enumerated in 1980), now beginning to move from their traditional base in the Southwest; Puerto Ricans (14 percent of the 1980 total), mainly concentrated in New York and New Jersey, who as U.S. citizens at birth are the only Hispanic group not subject to immigration restrictions; and Cubans, the smallest group at 6 percent in 1980, headquartered in Florida and chiefly refugees legally admitted since Castro's 1959 takeover in Cuba. The more widely scattered "Other Hispanic" group, now the second largest of the four Hispanic groups, covers persons from some 16 other Spanish-speaking Latin American countries – particularly Dominicans, Colombians, Argentinians, Ecuadorans, Nicaraguans and Salvadorans – and Spain itself, plus some Mexican Americans of long ancestry in the U.S. who prefer to place themselves in this category on Census Bureau questionnaires.

Some 88 percent of Hispanics tallied in the 1980 census were living in metropolitan areas, compared to 75 percent of the general U.S. population, the *Bulletin* authors observe, with over 3½ million – nearly one-quarter of all Hispanics in the U.S. – living in the Los Angeles and New York City areas alone. With higher fertility and heavy immigration of young adults, Hispanics are also younger than the total U.S. population, on average, with a median overall age of 23 in 1980, compared to the national median of 30. Hispanic fertility, though now declining in concert with that of all U.S. women, still averages 2.5 births per woman, the *Bulletin* authors estimate. This compares with the current national average of 1.8. Cubans are an exception on both these scores, however, with a median age of 41 in 1980 and a fertility rate possibly well below the national average.

Recent data from Texas suggest that Hispanic life expectancy may be on a par with that of all U.S. whites and well above that of blacks. Hispanics rate higher than the general population but below blacks in divorce and separation and proportions of female-headed families, the authors also report.

Socioeconomic Lag

Though Hispanics are changing the face of America like other immigrant groups before them, they are also finding that "newcomers start out at the bottom," the authors observe. Some of the evidence:

- In 1981, 46 percent of Hispanic males compared to 53 percent of black males and 72 percent of white males as a whole then aged 25 and over had completed four years of high school or more. In the same year, 36 percent of Hispanic 18-and 19-year-olds were high school dropouts, more than double the figure for all whites that age (16 percent) and almost double that of blacks (19 percent).

- Only 12 percent of Mexican-American men in the labor force and 15 percent of Puerto Ricans, compared to 31 percent of all working men over 20, held jobs in the highest paid professional and administrative occupations in 1981.

- In the last quarter of 1982, the unemployment rate among Hispanics over 20 (15.2 percent) was more than 40 percent higher than the national average (10.7 percent), a gap that has persisted through the decade since national statistics on Hispanics became available.

- Hispanic median family income stood at 70 percent of the median for white families as a whole in 1981 – $16,401 versus $23,517. In the same year, 24 percent of Hispanic families fell below the Census Bureau's poverty level – 2.7 times the 8.8 percent of all white families classified as poor.

The *Bulletin* authors point out that Cubans and some Central and South American Hispanics fare better than Mexican Americans and Puerto Ricans on all these measures, and younger Hispanics of all four groups average more years of schooling than their parents did. Thus future generations of Hispanics are likely to narrow the current socioeconomic lag behind the general U.S. population, they conclude. But they also point out that some observers feel that with their common language and large numbers (including a growing number of undocumented aliens), Hispanics could take longer than other immigrant groups before them to assimilate into the American "melting pot."

The authors' 43-page *Population Bulletin*, "U.S. Hispanics: Changing the Face of America," stems partly from research performed for the U.S. Department of Health and Human Services by Development Associates, Inc., where sociologist JoAnne Willette is Senior Research Specialist, and the Population Reference Bureau, where Cary Davis is Reseach Demographer and Carl Haub is Director of Demographic and Policy Analysis.

Additional copies of "U.S. Hispanics: Changing the Face of America" (*Population Bulletin*, Vol. 38, No. 3) can be ordered from PRB's Circulation Dept., P.O. Box 35012, Washington, DC 20013, at $3.00 per single copy; 2-10 copies, $2.30 each; 11-50 copies, $1.90 each; 51 or more, $1.50 each. Colored 35mm slides of the *Bulletin's* 21 charts and tables are available at $10.50 per set. Orders of $20 and under must be prepaid. Add $1.00 for postage and handling on orders mailed inside the U.S. For orders mailed outside the U.S., add 25 percent to the cost of items ordered for postage and handling.

world food news

The Food and Agriculture Organization of the United Nations (FAO) has established a special Task Force on the African food situation in cooperation with the World Food Programme (WFP). The main function of the FAO/WFP Task Force will be to review the food supply situation and monitor systematically the production of staple foods in a number of African countries for the crop years 1982-83 and 1983-84. The move was taken in view of alarming news of unfavorable growing conditions.

The Task Force will concentrate on countries affected or threatened by abnormally low food crops during 1982. These include: Benin, Botswana, Cape Verde, Central African Republic, Chad, Comoros, Ethiopia, Ghana, Lesotho, Mali, Mauritania, Mozambique, Sao Tome, Senegal, Somalia, Swaziland, Tanzania, Zambia and Zimbabwe. Most of them have inadequate food reserves and must rely on international food aid to reduce the risk of famine and starvation.

To meet basic food requirements in 1982-83, 17 of these countries with a total population of 118 million people may have to increase their annual cereal imports to an estimated 4.1 million tons, either on commercial terms or through food aid. This is over one million tons more than the previous year. Other countries may have to be added to the list later in 1983 when production prospects can be assessed.

The drop in African food supplies from low production in 1982 has been further aggravated in 1983 by drought throughout southern Africa where planting of staple food crops has been affected for the second consecutive year.

A further complication to the African food picture is the alarming spread of rinderpest (cattle plague) which has been detected in Mali, Upper Volta, Ghana, Benin, Niger, Nigeria, Chad, Egypt, Sudan, Ethiopia and Tanzania.

Rinderpest, a fatal disease of ruminants, mainly cattle and buffalo, was brought under control in the 1960s as a result of a multi-donor funded campaign. The disease was not eradicated and a significant resurgence occurred in 1980. With funding and technical assistance from the European Economic Community (EEC) and FAO in 1981, a marked improvement in the situation was achieved in a number of countries but in others the situation has continued to deteriorate, especially in the last six months.

FAO reports that Nigeria has reported 152 outbreaks in 10 states through March. In Sudan, the disease has spread throughout the country with estimates of 30,000 cattle deaths in 1982. The disease is also widespread in southern Chad while in Tanzania outbreaks have caused deaths among both cattle and buffalo in game parks.

FAO Director-General Edouard Saouma requested urgent action and funds to combat the disease at a meeting at FAO headquarters in Rome with representatives of the Organization of African Unity and the Office International des Epizooties. The meeting was set to carry out an in-depth review of the present situation and discuss preparations for a forthcoming donors meeting in Brussels in June on a proposed Pan-African Rinderpest Campaign covering 28 countries for a 10-year period.

The campaign, involving 120 million cattle at an estimated cost of $83 million, aims to improve control with a view to the ultimate eradication of the disease.

Since 1980, FAO has provided about $1.6 million to support national emergency campaigns in 15 African countries, supplying vaccines, vehicles, laboratory and field equipment. The EEC has also supplied emergency assistance.

FAO experts said the most important constraint at present in combatting the disease is a breakdown in vaccine production. This stems largely from lack of foreign exchange to purchase essential equipment and materials for vaccine production and insufficient funds available for the veterinary services in most African nations.

World Food News is prepared for INTERCOM each month by the North American Liaison Office of FAO, the Food and Agriculture Organization of the United Nations.

positions/professionals

Operations Research Specialist, International Centre for Diarrhoeal Disease Research, Bangladesh, to conduct studies of the rural health and family planning service systems. Preference given applicants with third world research experience. *Qualifications:* Ph.D. in economics, public health, organization research, political science or population studies. *Salary range:* $25,000-$38,000. Secondment arrangements considered. *Send CV and copies of recent publications to:* William B. Greenough, Director, ICDDR, B, GPO Box 128, Dhaka, Bangladesh.

Vital Statistics Update

Latest Provisional Statistics for the U.S.: March 1982

	12 months ending with March					
	Number		Rate			
Item	1983	1982	1983	1982	1981	1980
Live births	3,707,000	3,651,000	16.0	15.9	15.9	15.9
Deaths	2,006,000	1,947,000	8.6	8.5	8.8	8.6
Natural increase	1,701,000	1,704,000	7.4	7.4	7.1	7.0
Marriages	2,501,000	2,440,000	10.8	10.6	10.5	10.6
Divorces	1,180,000	1,212,000	5.1	5.3	5.2	5.2
Infant deaths	41,100	42,100	11.1	11.5	12.3	12.9
Population base (in millions)	...	...	232.1	230.0	227.8	225.3

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates from the 1980 Census.

Source. Monthly Vital Statistics Report (Vol. 32, No. 3) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Publishers may address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 2213 M St. N.W., Washington, D.C. 20037.

BANKING ON THE POOR, by Roger L. Ayres. Cambridge, Mass.: MIT Press, 1982. 282 pp. $17.50. ISBN 0-262-01070-4.

From its beginnings in the post-World War II years, the World Bank has enlarged its mission both in the size of its development loans to less developed countries, and the philosophy behind those loans. Ayre's thoughtful, comprehensive book details the history of the Bank, particularly as it relates to the battle against world povery.

Such a history is, of course, a history of Robert McNamara's years (1968 to 1981) as a very activist president of the Bank (or "of the world," as some Bank watchers characterized McNamara's view of his role). Under McNamara, new loan commitments each year increased from less than $1 billion (in 1968) to over $12 billion. Meanwhile, the purpose of the Bank's loans changed. In addition to loans designed to buildup of countries' economic infrastructure, the Bank increasingly implemented a strategy of "redistribution with growth," that is, directing loan funds to alleviate poverty among a country's poorest population segment (by financing projects whose ultimate effect would be to raise the incomes of the absolute poor). While "RWG" has its critics, its track record seems to be satisfactory for the Bank, and Ayres argues that despite the economic pinches and ideological vogues of the 1980s, the Bank under A.W. Clausen, McNamara's successor, is likely to continue this approach.

—Arthur Haupt

LATIN AMERICAN AND THE CARIBBEAN, NORTH AMERICA AND OCEANIA: THE HANDBOOK OF NATIONAL POPULATION CENSUSES, by Doreen S. Goyer and Elaine Domschke. Westport, CT: The Greenwood Press, 1983. 711 pp. $75.00 hardback. ISBN: 0-313-21352-6. LC: 82-9390.

This remarkably comprehensive volume is the first in a series of *Handbooks* which will feature worldwide coverage of national censuses. An unprecedented reference tool, the *Handbook* gives the history of Census taking in each country, the content of each enumeration, definition of terms, method and timing of publications, availability of computer tapes for modern censuses, and a detailed table of census questions for all counts since 1945, and more. Also included are very useful maps of each country with major political subdivisions such as departments or provinces shown.

In this volume, we can learn that the 1703 Census of Iceland was a landmark enumeration in that it canvassed the entire country and even had a special count on a fixed date of "wandering paupers," analogous to the U.S. Census Bureau's "M-night" and "T-night" when missions and flophouses are counted. Without this *Handbook* a researcher might have spent hours or days looking for the Census history of a particular country. But, if one's interest is in Chile, for example, we learn that the first census was conducted in 1831 in some parts of the country and in 1835 in others and added together to form a national count with an estimated undercount of 10 percent. With detailed information of that type at one's fingertips, this new compendium is certain to become one of the most widely cited works in the field.

—Carl Haub

IN DEFENSE OF THE ALIEN, VOL. V, REFUGEES AND TERRITORIAL ASYLUM, Lydio F. Tomasi. New York: The Center for Migration Studies, 1983. 127 pp. ISBN 0-913-256-61-7. LC 83-71083.

This book is the fifth in a series from the Center for Migration Studies which reports on the proceedings of an annual conference on immigration and refugee policy conducted by the Center. The conference treated many of the legal and ethical issues of the growing world refugee problem, with representatives from the Immigration and Naturalization Service, The U.N. High Commission for Refugees, the academic world, and various nonprofit groups with an interest in immigration issues. The concluding section is authored by Sen. Alan K. Simpson, cosponsor of the Simpson-Mazzoli immigration bill now in Congress.

Sadruddin Aga Khan of the U.N. Refugee Office points out that it is no coincidence that many mass population movements are from countries which are classified as being the least developed. Others voice the opinion that, while the world refugee problem is serious and may get worse, it is nonetheless impractical for all refugee movements to be absorbed by more developed countries such as the United States. This volume provides excellent background reading on this highly topical issue and will certainly provide food for thought for those interested or involved in the issue.

—Carl Haub

THE 1980 CENSUS: POLICYMAKING AMID TURBULENCE, By Ian I. Mitroff, Richard O. Mason, and Vincent P. Barabba. Lexington, MA: Lexington Books, 1983, 252 pp. $27.95 hardback. ISBN 0-669-05224-8. LC 81-47992.

During the 1980 U.S. Census, there was considerable controversy on the issue of the undercount and on the question of whether or not undocumented aliens should be included in the official totals. This controversy was, of course, stirred by the fact that many allocations of funds and representation in the House depend upon the census counts. This book addresses the very nature of census counting, the legal ramifications and the socioethical issue involved in a rather unusual and refreshing way. A quote: "The supposition that the population of the United States is a single, definite number is equivalent to some of the other misleading analogies in a complex society."

While almost all would agree that no census can accurately count a country's population down to the last person, the arguing over what to do about the count only begins there. The authors have tackled a comprehensive set of issues, including many nuances of the meaning of the enumeration in a metaphysical sense. In addition, there are sections on census undercount workshops and discussions *pro* and *con* an official adjustment of the Census.

—Carl Haub

AGING 2000: A Challenge for Society, by Philip Selby and Mal Schechter. Boston: MTP Press. 1982. 222 pp. $19.50. ISBN 0-85200-471-0.

Prepared for the 1982 World Assembly on Aging, held in Vienna, this book describes the variety of demographic challenges that a growing elderly population faces—including jobs, increased demand for services (health, housing, social), relationship with their families, personal adjustment to the life cycle, and recognition by the community of the elderly as a resource of skills and abilities.

Aging 2000 mainly summarizes a survey taken of the conference's expert participants as to the shape these challenges take in their own country (16 countries were represented, including Brazil, India, Sweden, and the U.S.). Some of the answers are on the general side. But the book has value as a record of the perceptions countries have about their aged subpopulations; and as another harbinger of the truth that while many countries' principal population concern focus on the future of their burgeoning newborns, up at the other end of the age-sex pyramid, another, equally important group of people is also growing.

—Arthur Haupt

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As INTERCOM Marks Its 10th Anniversary...

Since the summer of 1973, when INTERCOM was first published, the world's population has increased by about one-fourth – from 3.8 billion people to the present 4.7 billion. INTERCOM has been on the scene to cover this eventful decade in the history of human population – a decade when dozens of countries began to come to grips with their population growth and those in the field studied events looking earnestly for signs that would indicate how the population question was ultimately going to be resolved.

The question is still open. Overall, the record of the last decade has been that fertility has fallen (the world's birth rate has declined from roughly 32 births per 1,000 population in about 1973 to about 29 in 1983), while mortality has also continued to drop (from 13 deaths per 1,000 population in 1973 to 11 in 1983). Pronatalism – i.e., encouragement of population growth as a national benefit – once a fairly widespread policy in the less developed countries (LDCs), has nearly faded away in the face of increasingly obvious policy problems brought about by rapid population growth. Some 78 percent of the population of the LDCs live in countries whose governments now endorse population policies, according to Dorothy Nortman's 1983 *Population Fact Book*. And there are signs (see below) that many of the fears of negative results of too-rapid population growth are coming true, but in a more subtle way than anticipated.

Finally, one demographic development whose magnitude has taken most demographers and policymakers by surprise. It may be that when populations reach an upper limit, fertility does not have to fall nor mortality rise, but that there is a third way: migration.

Looking Backward

In the introspective 1980s, many may find it difficult to remember the fire-alarm tone of many population pronouncements of a decade ago. At that time, the prospect of an overpopulated world was fresher and newer, and meant one thing: apocalypse soon.

"The battle to feed humanity is over," Paul Ehrlich wrote in

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INTERCOM

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EDITORIAL STAFF
Editor: Arthur Haupt
Consulting Editors: Patricia Cancellier, Elaine Murphy, Jean van der Tak, Robert P. Worrall
Demographic Editor: Carl Haub
Book Review Editor: Janice Beattie
Demographic Analysis Consultant: Leon F. Bouvier
Assistant to the Editor, INTERCOM en español: Mena M. Ríos
Editorial Assistants: Janine Adams, Wynne Bumpas, Karen Lombardi, Robert Vladova
Circulation Director: Jacki Majewski

Editorial and Circulation Offices
2213 M Street N.W.
Washington, D.C. 20037
Telephone (202) 785-4664
Cable: POPREF WASHINGTON DC

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10 Years of INTERCOM

With this issue, INTERCOM celebrates 10 years as the international population newsmagazine, reporting the latest, most vital events and issues in population to its readers.

Population, as INTERCOM has covered it, encompasses a broad range of fields—everything from the basics of demography and the biology of reproduction to U.S. constitutional law, the ecology of the world's oceans, and how to take a statistical survey of Midwestern grasshoppers. No major news event, either in the U.S. or around the world, is without its population dimension, which INTERCOM will dutifully report ("Nothing human is alien to me," as Montaigne modestly put it).

The first issue of INTERCOM came into the world in August 1973, published by Population Services International, a nonprofit organization that initiated pilot family planning projects in Third World countries. Snyder Associates produced it under contract to PSI. The goal was to produce a newsletter aimed at population/family planning professionals. In those far-off days, the 12-page, blue-ink-on-white-paper newsletter covered world population news mainly from a family-planning perspective. Articles covered such subjects as "Disodium flavodate" and contraceptive imports to Ireland.

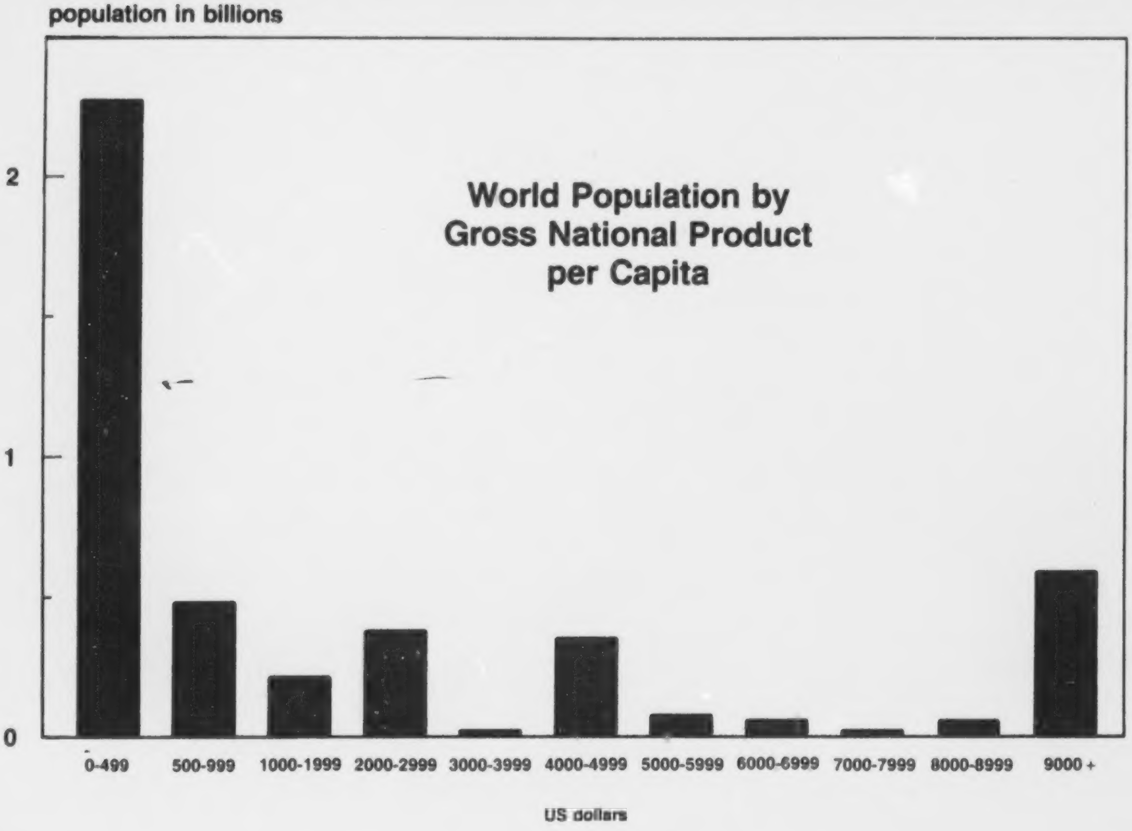
In August 1975, INTERCOM was acquired by the Population Reference Bureau and circulated to PRB's members. It continued to be produced by Snyder Associates until 1976, when PRB began to produce it in-house.

INTERCOM's coverage now extended over a wide range of subjects: everything from "Welcome Back, Otter" (resurgency of the otter population) to "Delivering the Male" (sperm separation and other methods of sex selection), and an emphasis on finding population news in unexpected quarters, from earthworms to space colonization.

Notable too was the series of Demographer's Pages. This regular series enables demographers from PRB and other institutions to elucidate some fascinating point or paradox in the realm of demography, tell a demographic "short story," or simply demonstrate fun with numbers. Into this last category falls "Demos P. Graphique," an eminent if shadowy statistician who has occasionally dropped in to share his wisdom with INTERCOM's readers.

In recent years INTERCOM had endeavored to publish the inside story on such subjects as the conduct and results of the 1980 U.S. Census and the 1982 Census of China. Each year it offers the most complete coverage of events at the Population Association of America's annual meeting. Its population articles are frequently reprinted in newspapers and magazines around the world (material from INTERCOM may be freely reproduced providing that due credit is given, and a copy of the publication containing the reprinted material is forwarded to PRB).

INTERCOM will continue to provide comprehensive coverage of population events and trends from everywhere from China to the Sunbelt to Populandia. Like world population itself, population news is a growing part of what current events are all about. □



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his 1968 classic, *The Population Bomb*. "In the 1970s the world will undergo famines... At this late date nothing can prevent a substantial increase in the world death rate, although many lives could be saved through dramatic programs to 'stretch' the carrying capacity of the earth by increasing food production."

Typical scenarios assumed that the world situation would soon worsen to reach an indubitably grim stage: continuing mass starvation on a regional level, until death rates rose and population regressed to a sustainable level; violent social unrest within Third World nations due to crowding or competition for resources; and ecological collapse on a regional or even global level, as population levels outstripped the environment's carrying capacity.

Now, 10 years later, the picture is less clear. During the 1970s and early 1980s, famines have broken out in the drought-prone countries of Africa, and in densely populated areas of Asia; and some 460 million people in the LDCs suffer from malnutrition, according to the UN Food and Agriculture Organization (a figure that does not cover China or other communist nations due to lack of data). The opinion of many specialists in the field is that theoretically speaking, enough food is being produced worldwide to feed the world (for now) but this food is being maldistributed. Alleviation of poverty would do wonders for proper distribution, but that goal remains distant, to put it mildly.

Meanwhile, the patterns of global food distribution have changed markedly and ominously. In the past 30 years, all the developing regions of the world, once more than self sufficient in grain, have become net importers of massive grain shipments, devastating their balance of payments. Only the great grain producing countries (mainly the U.S., with Canada, Argentina, and Australia) truly export food surpluses at this point.

By one count, there have been 65 wars in the world in the past 20 years, all fought in the less developed world. While the roots of conflict are complex, destabilizing social and political change certainly is a major contributor, and one imperative of rapid change is rapid population growth.

No one questions that humanity continues to have an impact on the environment. The ultimate global impact is the subject of many controversies, though evidence is strengthening that the CO_2 accumulation in the atmosphere is starting to warm up the climate. On a regional basis, however, the devastating (but not unusual) African droughts and the steady deforestation of such countries as Rwanda and Haiti demonstrate that the environment and population can have severe effects on each other if the population begins to approach the invisible "carrying capacity" level. And there are repeated reminders (e.g., famine in the Sahel, the U.S. Sunbelt's incipient water problems) of the geography lesson that the heretofore sparsely populated areas of the planet have usually been sparsely populated for a reason.

And Now, Migration

While the attention of demographers and development specialists were riveted to the above issues, something else was also taking place during the 1970s and early 80s: people were on the move.

The movement of refugees was noticeable: over 1 million out of Indochina, 2 million from Afghanistan, as well as hundreds of thousands of Somalians and the Mariel (Cuba) boat

Continued on next page

Continued from preceding page

people, and refugees displaced by the fighting in four Central American countries.

But while the world number of refugees in limbo has stayed at about the 10 to 15 million level in recent years, augmented by hundreds of thousands a year, there have been comparable numbers of nonpolitical migrants on the move. During the late 70s and early 80s, several million Mexicans were moving to the U.S., as well as an undetermined number from other Latin countries and the Caribbean (as near as anyone can tell, a number equal to 1 percent of the world's population growth migrates to the U.S.). At the same time, hundreds of thousands of Colombians were reported living in Venezuela as illegal immigrants.

In Africa, people from Guinea and Nigeria had been attracted to the Ivory Coast, while Ghanians who had formerly flocked to Nigeria were expelled in 1982. And Bangladesh migrants, who have been living illegally in the Assam state of India and number hundreds of thousands, were recently the subject of violent attacks because of their "outsider" status.

True, the UN Charter declares that "anyone has the right to leave any country including his own..." —a right to emigration that most countries' governments do not seem to have the slightest objection to (as long as there is no drain of education, skills, or money). But the Charter is conspicously silent about the corollary right to *enter* another country. And one remarkable thing about the migration flow of the 1970s and 1980s is that it has been happening in the face of worldwide immigration and border regulation that is as restrictive as it has ever been in peacetime history. (This restrictiveness—which is a 20th century phenomenon—in itself speaks eloquently of countries' reluctance to change their populations too rapidly.)

One major conceptual breakthrough of the past century has been the idea of the entire world divided into more-or-less-self-determined nation states, each with its own identity and containing its own citizens. Countries are units you can deal with. In this view, population belongs (and should want to belong) in their respective countries, along with embassies, border patrols, and geopolitical strategists.

But suppose great masses of people don't give sufficient respect to this system? People have always migrated in response to "push" (bad conditions in the country of origin) and "pull" (attractive conditions in the country of destination). The world's countries represent a broad spectrum of prosperity and opportunity—as indicated by the numbers of people living in countries with widely varying per capita gross national products.

The figure on page 3 shows that as far as distribution of people and wealth goes, the terms "less developed" and "more developed" countries (LDC and MDC) are not arbitrary labels—they are distinct categories, with a chasm in between. And the population in countries with per capita GNPs of $1,000 or less loom like a cliff at the poor end of the prosperity spectrum.

There have been two kinds of major migration in the past few years—from LDC to LDC and from LDC to MDC. About 75 percent of the world's population lives in LDCs, and their fertility is relatively high. The fertility of MDCs, by contrast, has slowed to a crawl, with many European countries at zero growth or headed toward it within the next few years. By 2000, the LDCs will be up to 80 percent of the world population, and still increasing.

So what will the outcome be? Will migration continue, and grow? Or will populations stay within their native countries, through choice, tradition, and/or external or internal persuasion? (In August, India announced that it will build a $450 million barbed-wire fence along the India-Bangladesh border.) Leon Bouvier of PRB, who has written extensively about migration issues, thinks that the migration is likely to continue. "Even with increased economic and family-planning assistance to developing nations," he writes in the August 1983 issue of *Natural History*,

The population explosion is *not* fizzling
Why the world's population explosion fizzled
More Hispanics
Population Changes
Need miracle to cut
growth
Study Sees
Birthrate Trends
Sponge Contracept
Danger: too many people
La population
atteindra les 10 milliards

During its history, INTERCOM, like other PRB publications, has often prompted various kinds of media population coverage.

> "substantial reduction in the level of migration cannot be assumed for the near future. As a result, those of us in the developed countries must prepare for major changes in the composition of our future populations. We will be older societies simply because of our low fertility rates, and we will be more heterogeneous because of continued migration... Immigration must be limited to some reasonable level; nevertheless, it is important that the receiving nations consider innovative approaches to the acculturation of their newest residents."

The Bottom Line

We are now so accustomed to thinking about, and reacting to, the dilemmas caused by rapid population growth that we sometimes forget that in many instances, population size has often been considered a political and military advantage: Population Is Power, so to speak. In U.S. local, state, or national politics, when 70 or 80 percent of the citizenry has a strong opinion about some issue, the numbers have talked.

Sheer numbers do not talk so clearly in the international arena. Other factors such as wealth, aggressiveness, and advanced economic clout seem to have a louder voice. (Libya certainly gets a lot of headlines for a country with seven hundreds of 1 percent of the world's population). But—just because most of the world's people do not live in countries that are wealthy, mighty, or economically advanced, does this mean that they are un-enfranchised?

Not if they make choices with their feet. The major demographic events that began after World War II resulted in a surge of population growth such as the world had never seen before. It will be interesting, to say the least, if that event causes a similarly massive migration phenomenon in the years to come.

—*Arthur Haupt*

Cuba: Low Fertility, Relatively High Abortion . . .

by Henry P. David

It gives me much pleasure to acknowledge the assistance of Dr. Octavio Avalos Triana (Instituto de Desarrollo de la Salud) and of numerous other Cuban colleagues, especially Dra. Lourdes Garcia and Lic. Loretta Rodriguez. (MINSAP) and the psychologists at the Ob/Gyn Hospital Ramon Gonzales Coro.

In July 1983 I was invited to participate in the International Conference on "Health for All: Twenty-five Years of Cuban Experience," convened by the Cuban Ministry of Public Health (MINSAP) in cooperation with the World Health Organization. This provided an opportunity to discuss common problems with Cuban colleagues and obtain recent abortion statistics which, although not published in MINSAP Annual Reports, are available on request.

Cuban fertility rates began to decline in the 1920s, earlier than in most other countries in the region. By 1958 the birth rate had decreased to 26 per 1,000 population. The 1959 Revolution triggered a baby boom which peaked at 35.1 in 1963. In subsequent years the birth rate declined steadily to 25.0 in 1973 and reached a low of 14.0 in 1980 and 1981 before rising again to 16.3 in 1982. Cuba's experience is similar to that of most developed countries; it has the lowest birth rate in the region.

Abortion was technically prohibited by the Social Defense Code of 1936 (except when the pregnancy endangered the woman's life or health, or in cases of rape or high risk of fetal impairment). Nevertheless, abortions were openly accessible from private physicians. After the Revolution the law was strictly enforced until 1964 when a more flexible interpretation was adopted. Since 1965 abortion has been available on request up to the tenth week of gestation for all married women and for unmarried women over age 18. Single women under age 18 require parental permission. After 10 weeks, abortions can be performed only with the approval of health authorities. In actual practice, over 95 percent of all abortion requests are approved and solutions are found for minors requiring assistance. The minimum legal age for marriage is 14 years. The 1979 Penal Code established severe penalties for illegal abortions performed outside hospitals or in violation of MINSAP regulations. Cuba is the only country in the Caribbean and all of Latin America where abortion is available on request and without charge; similar legislation has been approved but not yet implemented in Barbados.

Cuba: Births and Abortions, 1979-1982[a]

	1979	1980	1981	1982
Total population	9,800,000	9,800,000	9,800,000	9,800,000
Live births	143,600	136,900	136,200	159,800
Birth rate per 1,000 population	14.7	14.0	14.0	16.3
Legal abortions	106,600	104,000	108,600	126,800
Abortion ratio per 1,000 births	742	759	797	793
Other abortions[b]	43,400	43,300	41,600	44,500
Total abortions	150,000	147,300	150,200	171,300
Total abortion ratio[c]	1,045	1,076	1,102	1,072
Total fertility rate[d]	1.81	1.78	1.76	1.82

[a] *Source*. Cuban Ministry of Public Health,MINSAP, July 1983.

[b] Defined in text.

[c] Number of abortions per 1,000 live births.

[d] Total average number of children per woman, based on current fertility rates.

The number of reported legal abortions rose from 28,000 in 1968 to a peak of 131,500 in 1974. It then declined gradually to 104,000 in 1980 before rising again to 108,600 in 1981 and 126,800 in 1982. Meanwhile the abortion ratio (number of abortions per 1,000 live births) increased steadily from 113 in 1968 to 647 in 1974, 759 in 1980, and to 793 in 1982. These ratios suggest that an increasing proportion of conceptions were unwanted and that the Cuban fertility decline was accompanied by considerable reliance on abortion. In the city of Havana the number of legal abortions is about equal to the number of live births while lower ratios prevail in the rural areas. Trends in Cuban fertility, abortion, and contraception through the late 1970s have been reviewed by Avalos [1] and by Hollerbach.[2] More recent data are presented in the table.

Similar to other socialist countries, Cuba has two categories of abortion statistics, legal abortion and "other" abortions. The latter category includes spontaneous abortions, therapeutic curettage related to uterine and gynecological diseases, and incomplete illegal abortions requiring medical treatment. In recent years the number of "other" abortions has been fairly stable around 43,000. However, when added to legal abortions, the total abortion ratio exceeds 1,000, indicating that the total number of abortions has been greater than the total number of live births since 1979.

Discussions with experienced Cuban colleagues suggest that the 17 percent increase in the number of births between 1981 and 1982 (matched by a similar 17 percent increase in the number of abortions over the same years) are primarily the result of a rise in the population of the proportion of young women 15 to 19 and 20 to 24 years old. This may be an echo of the baby boom of the early 1960s. The Total Fertility Rate (the average number of children born to a woman during her lifetime), which had declined from 3.70 in 1970 to 1.76 in 1981, rose slightly to 1.82 in 1982. It is expected to peak around 2.00 about 1985. All forms of fertility regulation are freely available but female sterilization is permitted only for women over 35 years old or those that have three children. Vasectomies are not popular and are seldom performed.

Problems related to adolescent pregnancy are of growing public health and social concern. About 30 percent of all pregnancy terminations are among women under 20 years old, similar to U.S. experience. There is an impression of ineffective contraceptive practice among adolescents and undue reliance on abortion, especially in the rural areas. Sex education has made considerable advances with the dissemination of teaching materials developed in the German Democratic Republic and translated into Spanish. A high level National Group on Sex Education has been established and has strong support from the mass organizations, including the Federation of Cuban Women, but opposition to teaching about contraceptives persists among many parents and teachers. There is increasing awareness of the need for

Continued on next page

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service-oriented research on reproductive behavior and on psychosocial aspects of fertility regulation among adolescents, especially the decision-making process regarding contraceptive practice and resolution of unwanted pregnancy. Conditions for such research are excellent, including a population registration system, well developed public health services, and the interest of youth organizations in participating in working towards solutions of adolescent problems. There is much to be learned from Cuban experience. ☐

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2. Hollerbach, P.E. Recent trends in fertility, abortion, and contraception in Cuba. *International Family Planning Perspectives*, 1980, 6, 97-106.

Henry P. David is director of the Transnational Family Research Institute, Bethesda, Md.

. . . . And Cuban Workers Scattered Around the World

To counteract the effects of its own baby boom bulge – those born in the 1960s who are just now entering the labor market – Cuba now follows a *de facto* policy of exporting "surplus" laborers and others, according to a new article by Sergio Diaz-Briquets in the Spring 1983 *International Migration Review*.

This policy, combined with Cuba's special interests abroad, has culminated in such unusual results as Cuban troops in Africa, Cuban doctors and technicians working all over the less developed world, and perhaps tens of thousands of Cuban guest workers in Eastern Europe.

Even the Mariel sealift of April 1980 seems to have been a product of this "export" policy. Months before the sealift, the Cuban government had discussed the possibility of more emigration to the U.S.; Premier Fidel Castro had warned the U.S. that unless the U.S. discouraged illegal migration to its shores, Cuba might permit a mass legal emigration. The mass migration of 125,000 Cubans that followed was thus not solely a result, as it had previously seemed, of the storming of the grounds of the Peruvian embassy in Havana by refugees in April 1980.

The Cuban Baby Boom

What is causing Cuba to be so interested in sending its citizens abroad? In his paper, Diaz-Briquets, coauthor of PRB's 1981 *Population Bulletin*, "Cuba: The Demography of Revolution," points to Cuba's baby boom of the 1960s. From below 2 percent a year during the 1950s, the rate of natural increase there began to rise in 1959 and reached a peak of 2.8 percent in 1964.

The children of this boom have grown up. In the mid 1970s, they began to reach the working ages. Between 1975 and 1990, the age group 15 to 29 years will increase by nearly 45 percent. Thus, it will probably be necessary to create "five times as many jobs during the 1980s than in the preceding decade."

Providing these jobs while raising productivity and improving economic performance should pose problems for the government leadership. The demographic bulge will also make new demands on an already strapped and deteriorating housing situation. Emigration is one way to even out a demographic bulge.

Since the 1959 revolution, Cuba has been a less developed country with a difference, a country that emphasized its ties with the Soviet Union, strove for a leadership role among the developing countries, and asserted itself as a champion in Third World struggles of liberation. Attempting to fulfill these roles has required a certain amount of foreign involvement – and emigration.

Premier Castro has been talking about Cuba as a source for technicians for other developing countries for at least 20 years. Oddly enough, Cuba first supplied laborers to nations in Africa, Vietnam and parts of the Middle East. Only in recent years (as in Nicaragua) have Cuban technicians appeared in Latin America.

Castro himself has stated that as of mid-1981 there were nearly 15,000 Cuban workers in 36 developing countries. Some 12,000 young Cubans were reported to be working in Eastern Europe as the socialist equivalent of "guest workers." Negotiations were underway with other Communist countries for similar arrangements.

Besides benefiting politically (as a friend in need) and demographically (by exporting some of its "bulge"), Cuba benefits financially from its foreign labor assistance. Angola was said to be paying Cuba $40 per day per soldier. Angola may also be paying $600 monthly for the Cuban teachers serving there. Much of the workers' own payrolls may ultimately wind up in Cuba, partially shoring up a stark foreign exchange situation. And by sending laborers to the Communist bloc and soldiers to the Third World, Cuba may be repaying the USSR for considerable aid over the past two decades, which is now estimated to be some $8 or $9 million per day – or over one-quarter the Cuban gross national product.

Despite the fact that Cuba has one of the world's highest ratios of physicians to population (1 to 600), it continues to train increasingly large numbers of physicians, presumably to help supply the developing world's "insatiable" demand for medical personnel.

Diaz-Briquets sees the current Cuban emigration as evidence that "labor migration is not the monopoly of the capitalist world." He cites another example: Vietnam, which reportedly sent 50,000 workers to the USSR and other countries and may increase this number. This "onset of labor migration from peripheral less developed socialist states to core more developed socialist states" is a new phenomenon. It demonstrates the different kinds of labor problems prevalent in communist countries, as well as what the experience of other Latin American countries have already shown; namely that emigration is largely a result of demographically induced "push" forces that propel "surplus" workers to countries where employment is more available. ☐

As Ethiopia's Drought Continues, Aid Not Reaching 1 Million

Ethiopia now is the focus of international disaster relief assistance. A decade after its last major famine, which took over 200,000 lives and precipitated the fall of Haile Selassie's regime, a drought today affects some 4 million victims in Ethiopia's four northern provinces: Eritrea, Gondar, Tigray, and Wallo. Unlike 1973, Ethiopia's Relief and Rehabilitation Commission has openly sought both international and bilateral help. Sources in private voluntary organizations estimate that 1 million are in urgent need of food, and 50 to 100 children are dying each day and many more are suffering from severe malnutrition. There are reports of mass internal migrations and border crossings into The Sudan. Beyond drought and underdevelopment, conditions are aggravated by civil strife and the East/West power politics of the Horn of Africa.

According to the United Nations Food and Agriculture Organization (FAO), the international donor community has and is prepared to contribute sufficient grain and other foodstuffs. The problem is more complex: bringing it to those in need. Ethiopia's two northern ports, Asseb and Massawa, can accommodate only 500 tons of grain a day. The United Nations Disaster Relief Organization (UNDRO) has called for 90,000 tons for a six month period. The ports' capacity would require a full six months simply to unload that quantity. Beyond the sea, there are barriers of Ethiopia's mountains, valleys, gorges, and rivers, most of which is not touched by roads. The Relief and Rehabilitation Commission asks today for transportation assistance, from airplanes to spare parts for trucks.

Two of the four affected provinces are sites of civil war. Eritrean independence has been sought since 1962, when that area was annexed by Ethiopia after ten years of federation. The war for self-government of Tigray is more recent in origin; the Tigray People's Liberation Front (TPLF) claims to control over 90 percent of the province. These struggles aggravate drought-caused migration. Private voluntary agencies estimate that up to 400,000 drought victims have migrated to The Sudan, primarily from Tigray. United Nations High Commissioner for Refugees (UNHCR) sources indicate that in spring 1983, between 100 and 150 crossed into The Sudan daily. Aiming to stem some of that tide, PVOs assisted by Western governments have been working with the Relief Society of Tigray (REST) to distribute food within TPLF-held territory.

The international donor community is responding strongly to the Ethiopian appeal. Still, superpower geopolitics affects the behavior of the Soviet Union and the United States. The Soviets have pumped over $2 billion in armaments and military aid into Ethiopia, but have not responded to the humanitarian requests. The U.S. Agency for International Development has provided $6.4 million in food aid to international organizations and to PVOs operating in both government and TPLF territory. The United States' response to UNDRO's appeal has been prompted by public pressure and by a letter from 74 Members of Congress to AID urging action.

There has never been a census of Ethiopia. The government of this ancient country uses 32 million as its population figure. Other estimates place it at 10 million more. In addition, there are more refugees from Ethiopia than from any other African country: according to the U.S. Committee for Refugees, in 1982 there were 700,000 in Somalia, 350,000 in The Sudan, and 30,000 in Djibouti. And there are many thousands of Ethiopians in other African nations, and in Western Europe, Canada, and the United States. The 1973 famine had fundamental political consequences and is an element in the refugee flows from Ethiopia since then. Today's famine, too, will cause more displacement of Ethiopians outside their homelands and significant effects upon births, deaths, and infant mortality.

–Ruth Gutama

Ruth Gutama is on the staff of the Conflict and Analysis Center, Washington, D.C.

Salas on Population Trends Leading to '84 Conferences

In August 1984, the world's governments will meet in Mexico City at the International Conference on Population to discuss progress which has been made in the decade since the epochal 1974 World Population Conference, in Bucharest, and decide on action for the future. The conference will address the question of how to sustain the current downward trend in population growth in order to attain stabilization of world population by the end of the 21st century.

In his just-published annual report, Rafael Salas, Executive Director of the UN Fund for Population Activities and Secretary-General of the International Conference on Population, details the four headings under which the preparatory discussions for the conference are grouped: 1) fertility and the family; 2) mortality and health policy; 3) population distribution, migration and development; and 4) population, resources, environment and development. In his report he examines each of these issues as a step toward evolving operational policies.

The trend in family size turned, in the 1970s to smaller families. Once an easy distinction between developed and developing countries, families are becoming almost universally smaller. Though declining, high birth rates are still a primary concern for population programs though other population concerns are closely related. "High infant mortality rates in the developing countries, for example, are a cause as well as an effect of high birth rates," writes Salas. "The Conference may recommend special measures to reduce inequalities in access to health care and set new targets for infant mortality and life expectancy."

Regarding the interrelationships between population, resources, environment and development, Salas states that although sharp differences of opinion exist, "there is almost unanimous agreement that population is central to these relationships, but that population growth cannot be held solely responsible for either the deterioration of the natural environment or for the depletion of the world's resources." He reports that drastic measures may not be necessary to maintain the balance between population, resources and the environment and that improved environment management in many areas can restore the balance threatened by human depredations. ☐

demographer's page

Leon Bouvier is Senior Research Associate at the Population Reference Bureau.

On Reifying Numbers: Its Theory and Practice

by Leon Bouvier

> *Everything which can be recognized as real is numbers, because it is impossible in our thinking to become aware of anything without numbers . . .*
>
> **– Philolaos**

> **Reify** *(trans. verb) to regard [something abstract] as a material thing.*
>
> **– Webster's New Collegiate Dictionary**

For most Americans, the 1980 official census count of 226, 545,805* for the total U.S. population is easily accepted as the truth. Psychologically, this number has become "reified" and stands for all time as the actual "population" of the United States in 1980.

Unfortunately, reification has its troublesome aspects. In reality, after all, 226,545,805 was *not* the actual population of the U.S. on April 1, 1980 – some other, unknowable number was. The number 226,545,805 was rather the number of persons who were *enumerated* during the entire course of the census. Strictly speaking, no one knows what the real population of the U.S. was on April 1, 1980, or any other date in the history of the nation. Not the greatest philosopher, statistician, or even demographer (!) can determine what is or was the real population of the country at any given point in time.

This is not to deny the tremendous importance of the census nor to deprecate the work of one of the premier statistical organizations in the world. Rather, it is to make clear that, although the enumerated population is a very important *concept*, it is not to be confused with the actual, unknowable population of any nation.

The Bureau of the Census itself devotes considerable time and effort attempting to determine how many persons were missed (or counted twice) in the census. One might ask how many other government agencies engage in such a detailed examination of their own "failings" and then publish the results. During the 1970 Census, the Bureau estimated that it had missed about 2.3 percent of the population. In 1980, an overcount of 0.4 percent is indicated as a preliminary estimate. But even these figures are not really undercounts, but they are only suggested by comparing census totals to estimates of the U.S. population derived by other methods, such as demographic analysis.

All of this may appear surprising or shocking to some, as Mitroff et al. recently wrote: "Certain ideas are so ingrained in the human imagination that whenever they are challenged, the social body experiences a severe shock. Such is the case with the 1980 Census. Because the act of counting – particularly the counting of small, isolated groups of things – is exercised daily, it tends to be taken for granted."[1] The census count is one of those things which should not be taken for granted.

Where? When? Who?

There are other points to be made about any census count. Who should be included in the population and who should not? Should all persons physically present in the country be counted in? It seems obvious that certain groups such as tourists should probably not be counted (although it could be argued that since their needs for shelter, food, and services must be provided for warrants their inclusion). But how about students on visas and embassy personnel? Each country defines its population as it sees fit; in the U.S., the definition changes slightly from census to census, but is rooted in the concept of "usual residence." But usual residence where? If a person maintains homes in both New York and Barbados, where is his or her usual residence? And, particularly in the case of the U.S., there is the perennial question of illegal residents. Many feel that they should not be counted since they should not be entitled to benefit from federal programs, while others point out that many pay regular taxes and make a de facto demand upon local government services.

And there is the temporal element. Theoretically, a census count represents the population as it was on a particular day, or, in some countries, "the census moment." This would be fine if all persons filled out their census form on the appointed day and handed it in and did not also have the audacity to move around the time of the census day. This latter form of behavior can lead to one's being counted twice by a conscientious enumerator or simply being lost in the censal shuffle.

And even if it were possible to pin down the population perfectly as of the census day, the count soon begins to become obsolete. The nation relies on the census count for many important allocations, such as funds and Congressional representation as mandated by the Constitution, as well as apportionment of state legislators. For the latter two purposes, U.S. "population" can be seriously out of date soon after the census and for many fund allocation purposes, the process of estimating populations begins again. Since apportionment, Texas has gained over 1 million people, and is underrepresented in Congress.

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*The provisional 1980 Census total, as presented to President Carter on Dec. 31, 1980, was 226,504,825. 226,545,805 is the final, official total.

Finally, a number of statistical measures, central to the description of U.S. demography, depend upon the census for their calculation, or upon estimates which use the census as the "base year"; whether they be birth rates, death rates, life expectancy tables, crime rates, or whatever. The denominator that generates most rates on a *per capita* basis depends for its accuracy on the *capita enumerata*. We can then legitimately ask if the birth rate in 1980 really was 15.9 per 1,000.

In 1980, the census found about 5 million more people than expected, jolting all vital rates as well as untold hundreds of other measures calculated between 1970 and 1980. When new rates for 1980 and after were calculated, they were automatically lower since the denominator based on the census count was larger. But, while these newly calculated rates were probably more correct than their predecessors, they are still not "right" since we do not yet "know" the actual U.S. population.

What does all this tell us? Should we discard using the official enumeration of the population as a basis for our statistical analyses? Absolutely and positively not–it is altogether proper to reify the number 226,545,805, all the while being aware of its imperfections. Unless we are an official such as a mayor whose city can lose federal funds due to a less than perfect count, we should not be unduly concerned by the many problems we have in coming up with the "population" of the U.S. What was the population of the U.S. on census day? 226,545,805 is about the best we can do. Sometimes reification is the only way to go. ☐

References

[1] Quoted in Ian I. Mitroff, Richard O. Mason, and Vincent P. Barabba, *The 1980 Census: Policymaking Amid Turbulence* New York: Lexington Books, 1983.

Putting Reification to Good Use

The 1980 Census proved once again that past population estimates are not cast in stone, but represent the best available information at the time. While it is not difficult to accept the idea that steadily improving enumeration procedures will cause successive census counts to be a bit "out of line" with one another, the unexpected 5.5 million persons picked up in the 1980 Census can cause some essentially unsolvable statistical dilemmas.

While every census count is evaluated for its completeness by a number of methods, the official counts themselves are not actually adjusted but are allowed to stand. This area is itself a matter of some controversy, but there are many good reasons why the count can't be successfully adjusted. Suppose there is a census in Year A, followed ultimately by a census in year B. When one takes the total for Year A and adds to it the births recorded during the interval between A and B, subtracts the deaths, and includes the net amount of (legal) migration, the sum is rarely, if ever, going to exactly match Year B's census total. Since censuses will never count the population in exactly comparable ways, the application of the balancing equation will "miss" the later count by some amount. This factor is most often assigned the label of the *error of closure*, a hopefully small amount appended to the equation as $+ \epsilon$.

In the two decades before 1970, ϵ was quite barely noticeable, about −3,000 and −379,000, respectively. But, in 1980, the census found that extra 5.5 million persons; this may have been caused by increased efforts in 1980 to count the population, particularly minorities, or by the arrival of illegal immigrants in the 1970s or both. But no matter what the cause, an unusual difficulty presents itself.

The larger census counts means that all U.S. population estimates from 1980 back to 1970 (1979, 1978, 1977 . . .) must be revised. This can only be done by distributing the error of closure as smoothly as possible each year. This is all well and good, as long as it does not bother us that each year's population change does not add up to its two components, natural increase (births minus deaths) and net immigration.

During 1978, for example, the population is now estimated to have grown by 2,564,000 but natural increase was 1,560,000 and net immigration was 499,000; these two numbers clearly do not add up to 2,564,000. The resulting error of closure, then, represents 505,000 "persons."

In truth, none of this should really bother us. True, it may be a statistical annoyance that the nation's balance sheet does not tally. When we estimate that the 1978 U.S. population was such-and-such, we know, in fact, that it really wasn't. But that estimate should be as good as the state of the art will allow. The only logical course is to reify it.

How Many Countries Are There? (Round 2)

"How many countries are there really?" In September 1980 an INTERCOM article tried to answer that inherently unanswerable question, and after sifting through the evidence, finally came to the conclusion that "There are presently 212 countries in the world."

Any such assertion, of course, hinges on what's considered a "country." Nimbly tackling (or slipping by) questions concerning countries as defined by UN membership, diplomatic recognition, colonial status, or disputed territorial claim, PRB authors Carl Haub and Arthur Haupt defined country as simply a "geopolitical entity"—a place containing a permanent population with their own identity which is governed as a separate area (not as part of a parent country).

This instant definition encompassed both (A) "sovereign" countries (i.e., entities that were not colonies, had diplomatic recognition with each other, could sign defense treaties with each other or declare war, and in short were Big League); and (B) "nonsovereign" countries (colonies, dependencies, territories, overseas departments, etc., dependent in some way on a parent country of the Category A variety).

". . . Governed as a separate area" means that the Canary Islands is not a country, because it is composed of two Spanish provinces and is really an integral part of Spain. The Isle of Man, on the other hand, while geographically close to Britain, is nonetheless a somewhat autonomous British dependency and is considered (here, at least) to be a country. Greenland's position is similar. Denmark still manages its foreign policy but it has had "home rule" since 1979. Besides, Greenland is too different, too far away from Copenhagen, and just too BIG not to be a country in its own right.

Some Corrections and Updates

Following these criteria, with help from various sources and a large atlas, Haub and Haupt came up with a list of countries too small to be included on PRB's 1980 World Population Data Sheet. The Data Sheet and non-Data Sheet list together totalled 212 countries ("There are presently 212 countries . . . .").

Like any adventuresome investigation, the 1980 country tally was not without problems (including a regrettable one-country undercount of the 1980 Data Sheet, about which the less said the better). Furthermore, there were always questions about whether the tally was complete or not. (Should the Spratley Islands be included, for example. This disputed real estate in the South China Sea turned out, however, to be uninhabited, and so did not meet the standard.)

But whatever the quality of the original list, it was recognized that events in the ever-changing welter of world political events have rendered parts of it obsolete. Herewith some changes and comments, and a new tentative total to answer the philosophically unanswerable question: How many countries are there really?

INTERCOM Index is Coming! In response to a number of reader requests, INTERCOM will begin the practice of an annual index in the last issue of each year. By the way, reader suggestions or comments regarding INTERCOM are always welcome.

Additions

The French Southern and Antarctic Lands are inhabited (if only barely) and include four southern Indian ocean islands, the largest of which is Ile Amsterdam. (France also claims a segment of Antarctica, but this claim, like similar Antarctic claims by other countries, is not generally recognized.)

Mayotte, in the Comoros Islands, remains a French Overseas Department (though Comoros claims it), and is now on the list.

Norfolk Island, an Australian territory, has a permanent population, and makes the list.

The UN Trust Territory of the Pacific, administered by the U.S., is divided into four distinct governments (the Northern Mariana Islands, the Republic of Belau, the Republic of the Marshalls, and the Federated States of Micronesia). These are negotiating a future political status with the U.S. government. It has been decided that the Northern Marianas will become a U.S. Territory (Commonwealth); it is effectively treated as a commonwealth already, and this is listed separately from the rest of the Trust Territory. The status of the other three has not been finalized.

Spanish North Africa, which consists of five cities on the Moroccan coast, seems on reflection to be a Spanish separate territory. ("Spanish North Africa" is the informal name for these *plazas de soberanias;* no formal title exists.)

Svalbard, a Norwegian island territory in the North Sea, has a permanent population, and so is included.

Subtractions

Johnston Atoll and Midway Islands, two U.S. Pacific unincorporated territories, have been dropped, the idea being that they are more like U.S. government installations than indigenous "entities."

Pacific Islands, Misc., composed of U.S. unincorporated (and uninhabited) territories such as Kingman Reef and the Jarvis Islands, has now been dropped from the list. (The 1980 list erroneously endowed this category with a six-figure population.)

Five of the countries on the 1980 list are now on the "official" 1983 World Population Data Sheet, having either joined the UN or made the Data Sheet's population minimum for inclusion (now a mere 150,000 people). So they are now gone from the supplemental list.

The Summing Up

PRB's 1983 World Population Data Sheet contains exactly 171 countries. Add to that the 44 sovereign and nonsovereign countries on the new supplemental list, and we can now state without any trepidation whatsoever that:

There are presently 215 countries in the world.

. . . Depending on how you count them. And even then, the numbers never stand still. International shifts will probably change the total, and this list, before too long. If just to confound lists such as this one, someday someone will take up residence on the Spratley Islands. ☐

Countries of the World (Both "Sovereign" and "Nonsovereign") Too Small in Population to Appear on PRB's World Population Data Sheet

Country	Estimated population	As of year	Type
Africa			
French Southern and Antarctic lands	31	1975	French Overseas Terr.
Mayotte	36,000	1976	French Overseas Dept.
St. Helena	5,147	1976	British Colony
Western Sahara	135,000	1980	Status Unresolved
North America			
Bermuda	60,000	1980	British Colony
Greenland	49,717	1977	Danish Assoc. State
St. Pierre and Miquelon	5,840	1974	French Overseas Dept.
Carribean			
Anguilla	6,000	1970	British Assoc. State
British Virgin Islands	13,000	1980	British Colony
Cayman Islands	12,000	1980	British Colony
Montserrat	13,000	1980	British Colony
St. Kitts-Nevis	43,000	1980	British Assoc. State
Turks and Caicos Islands	6,000	1980	British Colony
U.S. Virgin Islands	107,000	1980	U.S. Terr.
South America			
Falkland Islands (Islas Malvinas)	2,000	1978	British Colony
French Guiana	66,000	1978	French Overseas Dept.
Europe			
Andorra	31,000	1980	Co-Principality under President of France & Spanish Bishop of Seo de Urgel
Channel Islands (Jersey and Guernsey)	133,000	1980	British Dependency
Faeroe Islands	41,000	1980	Integral part/Denmark
Gibraltar	33,000	1980	British Colony
Isle of Man	60,496	1976	British Dependency
Lichtenstein	26,000	1980	Sovereign Country
Monaco	25,029	1975	Sovereign Country
San Marino	20,638	1977	Sovereign Country
Spanish North Africa	166,000	1970	Spanish Terr.
Svalbard	3,000	?	Norwegian Terr.
Vatican City (Holy See)	1,000	1980	Independent Papal State
Oceania			
American Samoa	31,000	1980	U.S. Terr.
Christmas Island	3,000	1977	Australian Terr.
Cocos (Keeling) Islands	607	1974	Australian Terr.
Cook Islands (excl. Niue)	18,127	1976	New Zealand Self-governing Terr.
Guam	120,000	1980	U.S. Terr.
Kiribati	56,000	1979	Sovereign Country
Nauru	8,000	1980	Sovereign Country
New Caledonia	133,233	1976	French Overseas Dept.
Niue	3,843	1876	New Zealand Terr.
North Mariana Islands	16,700	1980	U.S. Terr.
Norfolk Island	1,700	1978	Australian Terr.
Pitcairn	70	1977	British Colony
Tokelau	1,575	1976	New Zealand Terr.
Tonga	90,085	1976	Sovereign Country
Trust Terr. of the Pacific Islands	117,000	1980	UN Trust Terr. administered by the U.S.
Tuvalu	7,000	1976	Sovereign Country
Wallis and Futuna	9,000	1980	French Overseas Dept.

A Nation of Capitals, Gateways, and Buckles Everywhere

One of the more fascinating aspects of Americana is our propensity for local pride in all its manifestations. While thumbing through *Geo-Data*, a new gazetteer from Gale Research,[1] we came across an example of local boosterism that can provide some rainy day reading – city nicknames. Nicknames often boast of local achievements, industries, or scenic beauty in hopes (one assumes) of attracting more industry and, in so doing, population. Nicknames an instrument of population policy? Maybe, maybe not, but they're fun anyway.

A recent issue of INTERCOM looked at state capitals and why they are where they are. But we ignored these other U.S. Capitals: Watsonville, Calif., The Strawberry Capital of the World (obviously outclassing Hammond, La., which is only the Strawberry Capital of America, and Plant City, Fla., which makes the distinction of being The Winter Strawberry Capital of the World). There are capitals for Watermelons, Hoists, Almonds, Dates, Barbed Wire, Carnations, Polo, Water Polo, Shuffleboard, Submarines, Cigars, Pepper Sauce, Chairs, Turkeys, Tire Cord, and Bratwurst. While citrus-producing Santa Paula, Calif., may be proud to be the Lemon City, we hope that nickname doesn't rub off on the town's car dealers.

U.S. thoroughfares also seem to pass through any number of "gateways." Pine Bluff, Ark., is the Gateway to Southeast Arkansas, should you be headed there. Mill Valley, Calif., is the Gateway to the Muir Woods if you're feeling sylvan and East Windsor, N.J., is the Gateway to Everywhere if you just can't make up your mind. In Maine, both Biddeford and Saco are listed as vying for the title of Gateway to that state.

Apparently, some towns wanted to come up with a catchy nickname but the town fathers had some difficulty coming up with a theme. Hence, the gazetteer lists Rock Hill, S.C., The City Without Cobwebs, Murfreesboro, Tenn., The Exact Geographic Center of the State, and, finally, Salinas, Calif., The City That Is.

Occasionally, snootiness surfaces in nicknames with New Canaan, Conn., billing itself as The Most Exclusive Residential Town in the East and Redwood City, Calif., pointing out that it's The Preferred City.

While gateways and capitals abound, the U.S. also has no shortage of "hubs" and queen cities. If you're looking for the Hub of the Chattahoochee Valley, head straight for Phenix City, Alabama; Belmont, California is the Hub of the Peninsula, Twin Falls, Idaho is the Hub of the Magic Valley, while Aberdeen, South Dakota claims the title as *The* Hub city. In its more expansive moods, Boston, Mass., has been known to refer to itself as The Hub of the Universe.

Queen Cities are represented by Glendale, Calif., The Queen of the Valley, and Amarillo, Tex., The Queen of the Panhandle. In Kansas, towns touted as "buckles" are in vogue, with Dodge City as The Buckle on the Kansas Wheat Belt and Independence, The Buckle on the Oil Belt; but folks in Emporia can counter with their nickname – The Loveliest Site in the World for a Town.

Often the temptation to borrow some of the luster of a more prestigious city for one's nickname proves irresistible, with European cities the favorite namesakes. The gazetteer lists any numbers of Athenses, presumably because those cities contain colleges. Claiming to be the "Athens" of their state are, among others: Tuscaloosa, Ala., Fayetteville, Ark., Iowa City, Iowa, Laramie, Wyo., Nashville, Tenn., and De Land, Fla. (Perhaps the U.S. can feel that it's finally "arrived" when Athens, Greece, starts billing self as the "Laramie of the Aegean.")

At least three cities have laid claim to the title The Venice of America: Ft. Lauderdale, Fla. Syracuse, N.Y., and Houma, La. Cincinnati, Ohio, is sometimes called "America's Paris." Even the Big Apple is not immune to the urge for reflected glory and is sometimes referred to as Baghdad on the Hudson.

Being "on the go" is also a part of American pride: Jacksonville, N.C. is one of any number of "Cities On the Go," but before taking off, they might want to talk to Alton, Ill., The Town That Came Back.

The fact that three cities claim to be The Marble City (Sylacauga, Ala., Carthage, Mo., and Rutland, Vt.) may not be surprising, but the fact that two cities call themselves The City Where North and South Meet East and West (Sedalia, Mo. and Salina, Kan.) may be.

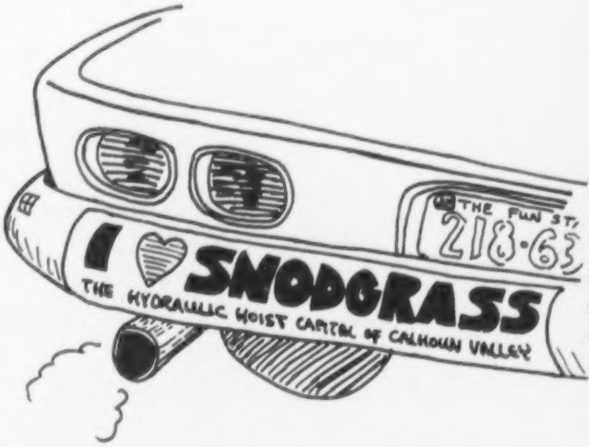
So nicknames can be fun and can also give a clue to who lives where and what they do. Many cities are just plain friendly and want us to know it by The Friendly City. Albertville, Ala., Douglas, Ariz., Gilroy, Calif., Owosso, Mich., and Ruston, La., are among those tagging themselves thusly. Corinth, Mo., goes one better as The City That Smiles Back.

Others we might mention as we conclude our summer survey of nicknames are Lawton, Okla., The Rollicking, Hilarious Tent and Shack City; Hot Springs, Ark., The Vapor City; Okmulgee, Okla., The City Where Oil Flows, Gas Blows, and Glass Glows; Walla Walla, Wash., The Town They Liked So Much They Named It Twice; Moscow, Idaho, The Dry Pea and Lentil Capital of the World; Bogolusa, La., The Magic City of the Green Empire; and Dalton, Ga., The Tufted Textile Center of the World.

And, if the Earth were an olive in a very large dry martini, Griffin, Ga. would be right at the center of things as The Pimento Center of the World.

Perhaps tired of all this, Coeur d'Alene, Idaho, simply announces to the world that it's The Only Town in the U.S. With an Apostrophe in Its Name. Charles Kuralt, eat your heart out.

– *Carl Haub*


THE FUN ST
218-63
I ♥ SNODGRASS
THE HYDRAULIC HOIST CAPITAL OF CALHOUN VALLEY

Art Haupt

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[1] *Geo-Data: The World Almanac Gazetteer*, Edited by George Thomas Kurian. Detroit, Mich.: Gale Research, 1983. $48.00.

This article is excerpted from *Population et Sociétés*, No. 168, April 1983, (original in French), published by the Institut National D'Etudes Demographiques (INED), Paris. Michael Louis Levy is editor of that publication. Translated by Jean van der Tak.

What's Going On In Italy?

by Michael Louis Lévy

Among the stereotypes entertained in France about our "Latin sister" is one of a prolific Italy with a lively Mediterranean familial tradition – source of intense emigration to other parts of Europe and to the Americas. In the past this view was justified by the disparate demographic trends going on in the two countries. But no longer. With a 1983 rate of natural increase of 0.1 percent, Italy now ranks among the European countries with the lowest growth – lower than France's 0.5 percent. Further, it has become a country of immigration, a surprising but logical turnabout.

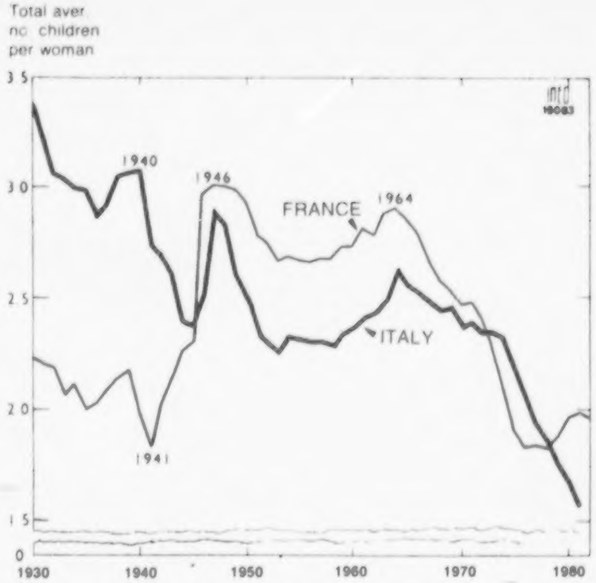
From 1939 onward, the French population first dropped slightly (during World War II), then began a rapid increase beginning in 1946 as fertility picked up again, further boosted by new immigration beginning about 1955. The trend was far different in Italy. Population increased at the beginning of the war as many emigrants returned. And the strongest population reduction, by contrast, came *after* the war. Faced with massive unemployment at this time, "emigration appeared to be a remedy, at least for a short time," writes Massimo Livi-Bacci. "In fact, net emigration reached 1.7 million in the decade 1947-1956, of which nearly two thirds was for non-European countries."

Another relatively recent phenomenon was internal migration from the South of Italy to the North. Until the unification of 1861, the South had followed a cultural and historical destiny different from the North's merchant cities. During the fascist period, the government blocked trans-migration northward in order to facilitate the development of the South. But during the 1950s and beginning of the 1960s, migration from the South, partly to other countries but mainly to the rest of Italy, reached an extraordinary level, changing the lives of many.

The South's fertility trend resembles that of other Southern European countries like Spain and Portugal – a delayed demographic transition which has continued since the war; the North's fertility trend, by contrast, resembles that of "continental" Europe (including France). As for Italian fertility as a whole, it started from a very low level at the beginning of the 1950s, rose to a peak in 1964 and thén dropped again, and has been dropping at an accelerating rate since 1975. This is in contrast to several other countries, including France, where the fertility drop since the 1960s has bottomed out, or at least been interrupted.

(One might ask whether the temporary fertility rise around 1964-1966 was the result of the arrival of Southern migrants who had maintained their traditional fertility behavior for a while. But rise was more or less the same in regions with very different levels of immigration, and fertility was similarly peaking in 1964 in many other European countries.)

The decline in fertility after 1976 has been varied. The northwestern regions of Italy have dropped to the lowest levels of Europe; in 1979, when Italy's total fertility rate was 1.74 births per woman (as compared to the U.S.'s 1.84), it was 1.45 in Piedmont, 1.40 in Tuscany, 1.28 in Emilie-Romagne, and 1.17 in Ligurie!



This trend parallels recent profound changes in Italian law:

- The 1970 law permitting divorce, which was confirmed by the referendum of 1974.
- The 1971 dismissal of laws forbidding contraceptive propaganda.
- The 1978 enactment of legislation legalizing abortion.

These laws are not causes of the fertility decline, but reflect the profound transformation in attitudes toward life, death, reproduction, the couple, and society.

Another demographic novelty: the presence of immigrants. In Italy, the population "present" in the country is distinguished from the "resident" population. Until now, the latter has always been several hundred thousand higher because of the absence of emigrants who nonetheless maintained a dwelling in their community of origin. But in the 1981 Census, for the first time the "present" population exceeded (by about 100,000) the resident population because of (largely clandestine) immigration by about half a million people, most coming from North Africa.

These trends demonstrate that contemporary Italy is a country of contrasts – Mediterranean and continental, Catholic and secular, industrial and agricultural at the same time. It is important to be aware of this and not retain the simplistic and peripheral images of the past. ☐

Menken Elected PAA President. The results of the 1983 election of officers for the Population Association of America have been tallied, and results reported by Jack Goodman, PAA's Secretary/Treasurer, on Aug. 18. Jane A. Menken was elected PAA President (she will serve during 1985; Samuel H. Preston was elected president last year to serve during 1984).

Other elected officials: Paul Demeny, first vice-president; Wendy H. Baldwin, second vice-president; John F. Kantner, Ronald D. Lee, and Karen O. Mason, nominating committee; James A. Sweet, publications committee; and Suzanne M. Bianchi, John P. Bongaarts, Susan C. Watkins, and Nancy E. Williamson, board of directors. Terms of office begin Jan. 1, 1984.

Historic Censuses Have Their Own Tales to Tell

The first in a series of volumes profiling national censuses from around the world, *The Handbook of National Population Censuses: Latin America and the Caribbean, North America and Oceania* is an indispensable guide to past and current censuses of countries in these regions. Authored by University of Texas bibliographers Doreen S. Goyer and Elaine Domschke, the Handbook is an unprecedented reference tool, taking the reader much beyond Goyer's previous census bibliographies. The Handbook supplies a history of census taking in each country, the content of every enumeration in the country's history, definitions of terms, arrangement and timing of publications, detailed census questions for counts taken since 1945, and more. Maps of the countries, including major political subdivisions, are also provided.

Summaries of censuses for Latin American and Caribbean countries occupy half the book. The authors have identified census classifications according to historical influence (for example, the legal population in French possessions is defined as resident in private or collective households, in institutions, or inhabiting more than one commune) and so have made it easy to identify patterns of development in the enumeration questions themselves. The 47 quite detailed entries in this section provide as comprehensive a view of question asking, census style, as one could ever want.

Census questions have their own tale to tell, and those in the Handbook often reflect the preoccupations of particular times and places; for example, in the 1950 Honduras census, "socioeconomic characteristics" were requested with the questions: "whether the person used shoes or not; whether the person ate wheat bread; the type of bed the person used." Other countries asked similar questions.

The Handbook also lists the kinds of statistical records available. In Peru's case, statistics are available from the time of the Incan Empire (though the authors caution against reliance on results from anything other than modern censuses).

The practical significance of the volume is readily apparent. Availability of computer tapes, tables of types of information provided, and listings of national and U.S. data repositories are provided, should one wish to investigate one census or another.

Goyer and Domschke promise future volumes on Europe, Asia, Africa, and other locations, in what should be a valuable reference series. ☐

Latin America and the Caribbean, North America and Oceania. The Handbook of National Population Census, by Doreen S. Goyer and Elaine Domschke. Westport, Connecticut: The Greenwood Press, 1983. 711 pgs. ISBN 0-313-21352-6.

Books Received

ANNUAL REVIEW OF POPULATION LAW 1981. Vol. 8. New York: UNFPA, 1983. 450 pgs.

THE THIRD WORLD TOMORROW. A report from the battle front in the war against poverty, by Paul Harrison. New York: Pilgrim Press, 1983. 414 pgs. $7.95.

WOMEN AND POVERTY IN THE THIRD WORLD, by M. Buvenic. Baltimore, Md.: Johns Hopkins University Press, 1983, 329 pgs., $29.50.

STATISTICAL YEARBOOK OF THE NETHERLANDS 1982. The Hague, Netherlands: Central Bureau of Statistics, 1983. 441 pgs.

GENERAL POPULATION CHARACTERISTICS: The Virgin Islands of the U.S., Bureau of the Census, 1983. (PC-80-1B55), 55 pgs.

THE STATE OF FOOD AND AGRICULTURE 1982. Rome: FAO, Nov., 1982. 33 pgs.

MIGRATION, URBANIZATION AND DEVELOPMENT IN THAILAND: Comparative study on migration, urbanization and development in the ESCAP region, New York: United Nations, 1982. 163 pgs.

SEXUALITY AND SOCIAL ORDER: The debate over the fertility of women and workers by Angus McLaren, Holmes and Neier. New York, 1982. 226 pgs. $29.50.

IMMIGRANTS AND THE CITY: Ethnicity and mobility in a nineteenth century mid-west city, by Dean Esslinger. Port Washington, N.Y.: Faculty Press, 1975. 156 pgs. $19.95.

THE DECLINE OF THE BREAST: An examination of its impact on fertility and health, and its relation to socio-economic status, edited by Michael C. Latham. Cornell University, Ithaca, New York, 1982. $3.00.

THE VIRGIN ISLANDS ALIEN LEGALIZATION PROGRAM: Lessons for the main land, by David S. Worth. Center for labor and migration studies, Washington, D.C. 49 pgs. $7.00.

OLDER WOMEN: Issues and prospects, edited by Elizabeth Markson. Lexington Books, Lexington, MA., 1983. $29.95.

IN DEFENSE OF THE ALIEN. Vol. 5; Refugees and territorial asylum, edited by Lydes Tomas, New York, Center for Migration Studies, New York, 1983. 127 pgs.

ADVANCE REPORT OF FINAL DIVORCE STATISTICS 1980. U.S. National Center for Health Statistics, N.C.H.S., 1983.

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world food news

The generally good harvests of 1982 are likely to be followed by a decline in world output this year, Director-General Edouard Saouma reported at the FAO Council in Rome last month.

He termed "almost catastrophic" the fall in prices of some of the main export commodities, which constitute principal sources of foreign exchange for many developing countries. "In 1982," he noted, "many commodities were trading at their lowest prices, in real terms, for 50 years."

In 19 developing countries production dropped in absolute terms. Although China has good harvests, production declined in the Far East as a whole, and particularly in India. Africa had mixed results, with per capita food production declining in 23 out of 42 countries.

Saouma cited the set-aside measures by the U.S. and the bad weather affecting Europe as well as important producers in Asia, Oceania and many countries in Africa as factors in the FAO's prediction. European wheat and coarse grain production is expected to be some 3 percent smaller than last year. The overall forecast for 1983 indicates a decline in world cereal production to somewhere within the range of 1435 to 1545 million metric tons from the 1565 million metric tons produced in 1982. Most of the decline is expected to be in coarse grain production.

Other important European crops such as vegetables have also been badly affected. Meat supplies in Africa are in great danger from the ravages of rinderpest (a form of cattle plague), and the general situation in large parts of Africa is very serious. ☐

Recent Featured Publications from PRB

Next U.S. Data Sheet in Production. The third edition of *The United States Population Data Sheet* is in the works, scheduled for September release, just in time for the new school year. This year's edition features updated state-by-state population estimates, the Census Bureau's new projections of state populations to 2000, a nifty new U.S. map showing all state capitals, and many columns of demographic data to answer all those questions so often asked. *$2.00 each; 2-49 copies, $1.75 each; 50 or more, $1.50 each.*

French Version of Data Sheet Available. The July-August issue of the Institut National d'Etudes Démographiques (INED)'s *Population et Sociétés,* contains a translation of the 1983 *World Population Data Sheet* in French, as has been INED's practice in recent years. The booklet form version of the Data Sheet also contains a number of tables ranking the top 30 countries on 12 items such as total population, birth rates, etc. A limited number of single copies can be obtained from PRB. *Free (please add $1.00 for postage and handling).*

Population-Group Directory. This 120-page reference lists some 200 population-related groups and institutions in the Washington, D.C., area, both private and public, complete with names, addresses, phone numbers, and descriptions of the organizations. Originally published in 1981, this fourth edition of the *Directory of the Population-Related Community of the Washington, D.C. Area* is an invaluable aid for anyone who needs to know the scope of this singular organizational community, and to discover which group or institution best suits their needs. *$3.00 each.*

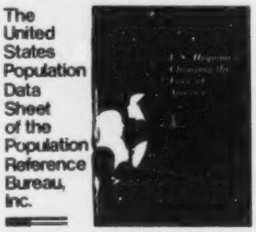
To order, write PRB, P.O. Box 35012, Washington, D.C. 20013. Make checks payable to PRB. U.S. orders of $20.00 or less must include a $1.00 handling charge; overseas orders, add 25 percent of order to cover postage costs.

positions/professionals

Executive Director, Zero Population Growth, in Washington, D.C., to direct small staff and work with volunteers around the country. *Qualifications:* experience in administration, fiscal management, fundraising, media, public speaking, lobbying, networking, knowledge of population and a commitment to zero population growth. Send resume and brief thesis of why you are applying for the position to: Joyce Laman, President, Zero Population Growth, 1346 Connecticut Ave. NW, #603, Washington, DC 20036.

Project Coordinator, The Population Council. New York based, but will spend considerable time in Africa. Responsible for project monitoring and administration, providing technical assistance, preparing proposals for funding and assisting in development of new project activities. *Qualifications:* Masters in population-related field; fluent French and English; knowledge of Arabic desirable; strong managerial skills in international program planning and monitoring; prior international experience. *Contact:* Dr. Margaret McEvoy, Associate, The Population Council, One Dag Hammarskjold Plaza, New York, New York 10017.

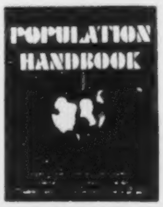
A Handy Package on U.S. Demographics. The 1980 Census provided a detailed snapshot of the American people. These PRB publications make an ideal package on U.S. demographics for classroom, office, or home use, and summarize the highlights of U.S. population issues in readable and attractive form:


The United States Population Data Sheet of the Population Reference Bureau, Inc.

- The United States Population Data Sheet
- U.S. Population, Where We Are, Where We're Going (Population Bulletin 37:2)
- U.S. Hispanics: Changing the Face of America (Population Bulletin 38:3)
- Black America in the 1980s (Population Bulletin 37:4)

A complete demographics package for $10.00. Bulk orders: 2-10 copies, $8.65, 11-50, $7.45 each, 51 or more $6.00 each.

The PRB's Population Handbook. Now in its fourth edition, the PRB's popular POPULATION HANDBOOK continues to be an asset to anyone who needs a quick reference guide to population terminology. Forgotten the definition of the rate of natural increase? Check page 44 of the HANDBOOK. "Push-pull" hypothesis? Page 58. Illustrated with charts, photos, and a profuse number of practical examples. Available in the original edition, which emphasizes U.S. demographics and the International edition, with examples from many countries, in addition to the following language versions:



- **Spanish**
- **French**
- **Thai** (limited quantities)

The HANDBOOK also features a glossary of population terms, a trilingual thesaurus in international editions, and a directory of population information sources. *$4.00 each; 2-49, $3.50 each; 50 or more, $3.00 each.*

Vital Statistics Update

Latest Provisional Statistics for the U.S.: April 1983

12 months ending with April

	Number		Rate			
Item	1983	1982	1983	1982	1981	1980
Live births	3,707,000	3,659,000	16.0	15.9	15.9	15.6
Deaths	2,008,000	1,957,000	8.6	8.5	8.8	8.6
Natural increase	1,699,000	1,702,000	7.4	7.4	7.1	7.0
Marriages	2,486,000	2,434,000	10.7	10.6	10.6	10.6
Divorces	1,178,000	1,207,000	5.1	5.2	5.2	5.2
Infant deaths	40,900	42,000	11.0	11.5	12.3	12.8
Population base (in millions)			232.3	230.2	228.0	225.5

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates from the 1980 Census.

Source. Monthly Vital Statistics Report (Vol. 32, No. 4) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Avenue, N.W., Washington, D.C. 20036.

WOMEN AND POVERTY IN THE THIRD WORLD, edited by Mayra Buvinic, Margaret A. Lycette, and William Paul McGreevy. Baltimore, Md.: Johns Hopkins University Press, 329 pgs. $29.50. ISBN 0-8018-2681-0.

This book carefully examines the position of women in poor economies. The essays, combining insight from economics, anthropology and sociology, address the issue of women's double role in the developing world. The contributors meticulously measure the social and economic value of women's work within the home, engaged in unpaid household activities, as well as their paid employment in the job market. In addition, they evaluate the quality of women's life in poor societies and discuss the relationship of women to the entire development process.

In discussing women, poverty, and development, the ongoing theme remains: women both affect and are affected by development processes. The structure of work and the contribution of women to total output are no longer cast as separate issues. The essays highlight the fact that women are indeed, the "second sex" in developing countries. At the same time, they emphasize the significance of poor women's needs to make valid contributions to the society which are different from those of poor men.

What distinguishes this book is its contribution toward an understanding of the changing role of women in developing economies, how their activities interface with those of the household and society at large and most importantly, the policies that must be objectively designed to deal with their problems that command qualitatively different solutions in the equation of Third World development.

—Alison Moses

FERTILITY ASPIRATIONS OF THE QUEBECOIS (in French), by Evelyne Lapierre-Adamcyk. Montreal, Canada. Université de Montréal, 1982. 102 pgs.

The delayed fertility transition in Canada's Roman Catholic, French-speaking province of Quebec is one of the intriguing sidelights of the demography of the developed world. Almost unique among Western populations, Quebec families still averaged four children in 1940. Surveys of Quebec married women conducted in 1971 and 1976 by French-Canadian demographer Jacques Henripin revealed that 30 years later the average had dropped precipitously to two.

The findings reported here from an October 1980 telephone survey by the University of Montreal's Survey Centre of 2,055 men and women aged 18 and over seem to confirm that fertility expectations have stabilized at the replacement level of 2.1-2.2 births per woman among all segments of Quebec's population, whether male or female, married or unmarried, Catholic or non-Catholic. However, families have not gone out of style, the author points out: 70 percent of respondents over 25 declared that having children was "personally very important" to them and only 16 percent overall expected to have none or only one. But the latter figure was 25 percent among couples with working wives and birth expectations were uncertain among cohabiting couples (20 percent of all unions formed in 1975-1980), which the author takes as signs that the actual family-size average could drop still lower in Quebec.

—Jean van der Tak

EXPLORING INDIVIDUAL MODERNITY, by Alex Inkeles, with contributions by David H. Smith, Karen A. Miller, Amar K. Singh, Vern L. Bengston, and James J. Dowd. New York: Columbia University Press, 1983. 376 pgs. $24.00. ISBN 0-231-05442-4.

Inkeles has explored the social psychology of modernization before (*Becoming Modern*, 1974); this volume completes the presentation of findings from the Harvard-Stanford Project on Social and Cultural Aspects of Modernization. A questionnaire designed to develop data for analysis under analytical, topical, and behavioral models was distributed to young men (18-32) in Argentina, Chile, India, Israel, Nigeria, and Pakistan. Questions were carefully phrased ("Which is most important for future of country: work/government planning/God/luck"). Some 5,500 men responded to 159 items intended to measure attitudes, information, and behavior. Certain alternative responses were considered in line with Inkeles' interpretation of social theory to represent the views of the "modern man."

"We believed," Inkeles and his associates write, "that employment in complex, rationalized, technocratic, and even bureaucratic organizations has particular capabilities to change men so that they move from the more traditional to the more modern pole in their attitudes, values, and behavior." Based on his research, Inkeles concludes there is "an empirically identifiable modern man," asserting independence from traditional authority figures such as priests or mullahs, becoming more involved in civic affairs, believing in the efficacy of science and medicine. The modern man is ambitious to become involved in new ways of doing things, "such as attempting to control births." Ethnic and national comparisons for countries studied are provided. The authors answer most-often-heard criticisms and misunderstandings of their theory and methodology.

—R. Vladova

THE EUROPA YEAR BOOK 1983: A World Survey. 24th Ed. 2 Vols. London: Europa Publications Ltd., 1983, 3,650 pgs. $210.00. (Available in North America from Gale Research Co., Book Tower, Detroit, Mich. 48226) ISBN 0-0905118-84-7; ISBN 0-905118-85-5.

Since its first expanded edition published in 1960, the *Europa Year Book* (first published 1926) has been known for its comprehensive, detailed listings of country organizations and statistics. The new edition provides once again a healthy set of background statistics and research contacts for countries of the world.

Many of the population statistics are not particularly new, and may be found in United Nations, FAO, World Bank, and other sources; as is often the case in the real world, the availability of demographic statistics for different countries varies widely. The Year Book has greater value for the flood of other statistics it makes available: education statistics, air-travel kilometers flown, inland waterways shipping data, road traffic figures, and other hard-to-find information culled from reports of statistical agencies and departments.

Anyone wishing to obtain addresses and descriptions of major publications, units of government, diplomatic representatives, trade and industry associations, and other organizations and institutions will find the Year Book an invaluable source. National constitutions are printed in full. Detail on some of the most elusive facts about countries (squid and cuttlefish catches for Spain, 1977-1980, or the addresses and heads of the established publishing houses in Bolivia) are readily available. The first section of the book (384 pages) presents brief but well-detailed descriptions of nearly 1,500 international organizations, from Aid to Displaced Persons and its European Villages (Belgium) to the International Lifeboat Conference (U.K.) to the World Packaging Organization (Argentina), under topical categories which include law, science, medicine, and the social sciences.

—R. Vladova